"A study to evaluate the effectiveness of nurse led intervention on knowledge of nursing officer regarding care of patient with intra-aortic balloon pump in hospital of AIIMS, Bhopal"

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In partial fulfilment of the requirement for the degree of

M.Sc in Medical Surgical Nursing (Cardiological/Cardiothoracic Vascular Nursing)

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July 2024

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DECLARATION

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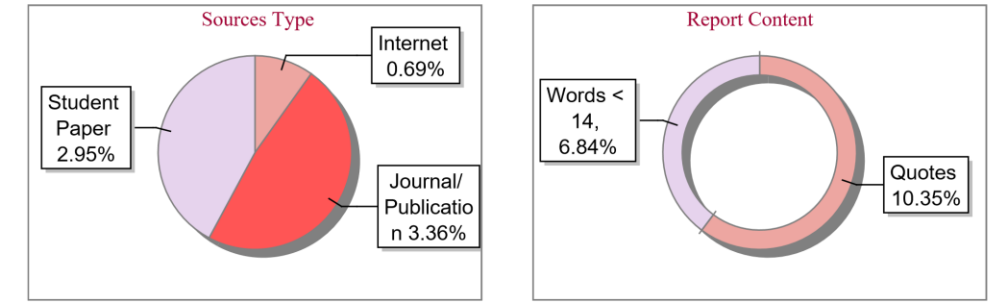

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Letter of Permission

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AIIMS, Bhopal Institutional Human Ethics Committee- Student Research (IHEC-SR) in its 7th meeting held on 22nd February 2023 discussed your proposal titled **"A study to evaluate the effectiveness of nurse led intervention on knowledge of nursing officer regarding care of patient with intra aortic balloon pump in selected hospital of Bhopal"** and evaluated it for suitability for your dissertation as required for fulfilment of MSc (Nursing).

Following members attended the meeting:

1. Prof. D. K. Pal, Former HoD Community Medicine, GMC, Bhopal.....Chairperson
2. Prof. Rajnish Joshi, Professor of General Medicine, AIIMS, Bhopal.....Member
3. Prof. Amit Agrawal, Professor of Neurosurgery, AIIMS, Bhopal.....Member
4. Dr. Sunita Athawale, Professor of Anatomy, AIIMS, Bhopal.....Member
5. Dr. Girish Bhatt, Addl. Professor of Paediatrics, AIIMS, Bhopal.....Member
6. Dr. Ujjawal Khurana, Assoc. Professor of Pathology, AIIMS, Bhopal.....Member
7. Dr. Ankur Joshi, Assoc. Professor of CFM, AIIMS, Bhopal.....Member
8. Mr. Trivesh Goswami, Law Officer, AIIMS Bhopal,.....Member
9. Dr. Shashank Purwar, Professor of Microbiology, AIIMS, Bhopal.....Member Secretary

The decision of the committee is as follows:

The AIIMS, Bhopal IHEC-SR approves your research protocol. All research related activities must begin only after the date of this approval. The validity of this approval is till two years from the date of issuance. Please submit a closure report / renewal request before expiration of the validity for this approval.

Shashank Purwar

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"You got to go down a lot of wrong roads to find the right one"

Bob Parsons

Alhamdulillah, Thank you allah, for the countless blessing in my life. Thank you for giving me the strengh to face each challange and giving me the courage to never give up. Thank you for giving me all the benefits in my life. More than I could have ever dreamed, you have given me. I am surrounded by people who constantly supports me. You have blessed me with family and friends who show me kindness on a daily basis.

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Ms. Saman Naseema

Date:

place:

ABSTRACT

Introduction

Intra-aortic balloon pump, remains the most widely used circulatory assist device in critically ill patients with cardiac disease in the hospital. Thus nurses need to know about the IABP and care of patients on IABP. The improvement in knowledge also helps to prevent the complications of IABP and lead to better patient outcomes. Therefore this study is conducted to assess the effectiveness of teaching programme regarding care of patient with Intra-Aortic Balloon Pump (IABP) upon the level of knowledge among nursing officer of AIIMS, bhopal.

Materials & methods

A randomized controlled trial was done on 60 Nursing Officers of AIIMS Bhopal. A true expeimental study with pretest-post test control group design was used. Nursing officer were randomized doing coin flipping method into Experimental and Control group. A one hour of power point based lecture cum discussion class on Intra Aortic Balloon pump (Intervention) was given to participants in experimental group only. Pre and Post knowledge Data was collected through self structured questionnaire from both experimental and control group.

Result

Out of 60 participants, 16(26.6%) had very low knowledge, 26(43.3%) had low knowledge, 18(30%)had average knowledge and 0(0%) had high knowledge before teaching intervention. After intervention , mean knowledge score increased from 52.67 to 87.33 in pretest and posttest respectively in experimental group and with no intervention, mean knowledge score difference was 46.53 and 49.20 in pretest and posttest respectively in control group.

Conclusion

The result of this study provide direct evidence of Effectiveness of Nurse led intervention on knowledge of nursing Officer regarding Intra Aortic Balloon Pump.

Keywords

Intra aortic balloon pump, Knowledge, Nursing officers, Nurse led Intervention.

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LIST OF ABBREVIATIONS

S.NO	ABBREVIATIONS	EXPANSION
•	AIIMS	All India Institute of Medical Sciences
•	CVI	Content Validity Index
•	f	Frequency
•	HOD	Head of Department
•	IHEC-SR	Institutional Human Ethics Committee- Student Research
•	IABP	Intra aortic Balloon PUMP
•	LOP	Letter of Permission
•	M.Sc.	Masters of Sciences
•	N	Sample Size
•	OR	Odds Ratio
•	STP	Structured teaching programme
•	PG	Post Graduate
•	SCVI	Scale Content Validity Index

LIST OF SYMBOLS

S.No	SYMBOLS	EXPANSION
1.	%	Percentage
2.	>	More than
3.	<	Less than
4.	≥	More than or equal to
5.	≤	Less than or equal to
6.	H1	Research Hypotheses
7.	p	Level of significance
8.	d	precision
9.	&	And
10.	=	Equal to

CHAPTER-1

INTRODUCTION

CHAPTER-1

INTRODUCTION

BACKGROUND OF THE STUDY

The Intra-aortic balloon pump (IABP) is a mechanical device that increases myocardial oxygen perfusion while at the same time increasing cardiac output. It consists of a cylindrical polyethylene balloon that sits in the aorta, approximately 2 centimetres (0.79 inches) from the left subclavian artery and counter pulsates. By actively deflating in systole and inflating in diastole, the balloon inflates and deflates via counterpulsation. By creating a vacuum effect, systolic deflation lowers afterload and obliquely raises heart rate forward flow. Through retrograde flow, diastolic inflation raises blood flow to the coronary arteries. Together, these processes lower cardiac oxygen demand and raise cardiac oxygen supply. (1)

During diastole, a computer-controlled system uses a cylinder of helium to fill the balloon. The balloon is inflated using helium because of its low density, which results in less turbulent flow and allows the balloon to expand rapidly and deflate gradually. In addition, it is generally safe and promptly resolved in the event of a balloon leak or rupture. (1)

The percentage of augmentation increases with balloon size, while catheter sizes vary. The ratio of heartbeats to balloon inflations can be shown by the IABP, which has three settings (1:1, 1:2, or 1:3). When a patient is being weaned off of IABP therapy, the nurse will notice a 1:1 ratio and provide three times as many balloon injections as at the 1:3 level.

Although the femoral artery is the most frequently used access site for the IABP, axillary implantation is becoming more prevalent in order to facilitate early ambulation.22

The IABP device is found useful in the following conditions. when myocardial infarction is managed with cardiogenic shock alone. 9–22% patient survive through the first year, Reversible intracardial mechanical defects complicating infarction, i.e. acute mitral regurgitation and septal perforation, Unstable angina pectoris patients gets benefits from counterpulsation. Most commonly, IABP is used in Post cardiothoracic surgery and also found useful in counterpulsation in weaning patients from cardiopulmonary bypass after continued perioperative injury to myocardial tissue, Preoperative use of IABP is recommended for high-risk patients, such as those with ventricular dysfunction and an ejection fraction of less than 35%, or unstable angina with stenosis above 70% of the major coronary artery. IABP is also used in percutaneous coronary angioplasty, IABP is utilised during the hospital stay, intubation duration, and high-risk coronary artery bypass graft surgery, where cardiopulmonary bypass time was reduced.[1]

According to the Journal of the American College of Cardiology, there is an urgent need for nations to develop public health strategies targeted at preventing cardiovascular illnesses by highlighting the need for international action to spread knowledge and carry out health initiatives, particularly in remote and difficult-to-reach nations. Although the prevalence of cardiovascular disease is high worldwide, the regions with the highest burden of CVD death were assessed to be Asia, Europe, Africa, and the Middle East.[23]

According to the Global Burden of Disease report, India has an age-standardized Cardiovascular disease (CVD) death rate of 272 per 100,000 people, which is significantly higher than the 235 global average. Indians are affected by CVDs ten years earlier than people in the West. The high death rate, rapid progression, and early age of initiation of Cardiovascular disease are very concerning to us Indians. It is well known that Indians have the highest prevalence of coronary artery disease (CAD). At present, India has the highest burden of acute coronary syndrome and ST-elevation myocardial infarction (MI).

In 1990, CVDs accounted for 15·2% and 6·9%, respectively, of all deaths in India; in 2016, they contributed to 28·1% of all deaths and 14·1% of all disability-adjusted life years (DALYs). For Indians living in India, the prevalence of CAD is 11% for those without diabetes and 21.4% for those with diabetes. The prevalence of CAD is about half as high in rural as it is in urban areas of the nation.[3]

Cardiac emergencies have shot up nearly five times in the last several years in Madhya Pradesh, according to 108 ambulance service data from May to November 2022. The data reveals that over 15,000 cardiac or cardio vascular emergencies were attended during the period.[24]

For failing heart, the most popular kind of mechanical support is the intraaortic balloon pump (IABP). Presystolic balloon deflation lowers the balloon's resistance to systolic output, while diastolic pressure augmentation during balloon inflation promotes coronary circulation. As a result, there is less cardiac work.[2]

NEED OF THE STUDY

Intra-aortic balloon pump, remains the most widely used circulatory assist device in critically ill patients with cardiac disease. In india , the prevalence was estimated to be around 1.2/1000 people in the INDUS study 2016 once developed heart failure has a 1 year mortality rate of 7.2% and a 1-year hospitalization rate of 31.9% in patients with chronic heart failure and in patients hopitalized for acute heart failure, these rates increase to 17.4% and 43.9% worldwide , the burden of heart failure has increased to an estimated 23 million people. (4)

According to a 2022 report called 'Accidental Deaths & Suicides in India' number of deaths caused by heart failure ranged from 25,000 to 28,000 in the last four years. (5)

Between 2010 and 2013, the death rate in Bhopal due to coronary heart-related causes was 150–190 per 100,000 people.Technological developments in intra-aortic balloon pumps, including greater

automation, smaller diameter catheters, sheath insertion techniques, and percutaneous insertion, have advanced the safety and effectiveness of counterpulsation in a variety of circumstances.[9] report a case of successful IABP use in a patient with septic shock and severe septic cardiomyopathy.A 28 year old African American female underwent dilation and curettage for incomplete, septic abortion. The procedure was complicated by hypotension and need for fluids and vasopressors. She was admitted to the ICU with septic shock, and her condition deteriorated overnight with escalation of vasopressor doses, short runs of ventricular tachycardia (VT), ARDS and renal failure. Decision was made to utilize IABP, which was placed at the bedside by an intensivist. Within couple of hours after IABP initiation patient's hemodynamics, CI and SvO2 improved, arrhythmias subsided, and urine output increased. By day 2 she was only on moderate doses of norepinephrine and Idobutamine. IABP was weaned within 28 hours of insertion. Patient was extubated on ICU day 6 and discharged home 9 days after the admission.IABP is a valuable circulatory support option in patients with septic shock and severe septic cardiomyopathy.[10]

Healthy People 2020 defines "access to quality health care" as having health insurance, being able to obtain healthcare in one's area, and having the opportunity to see a healthcare practitioner. The definition of health care quality is "the extent to which health care services are consistent with current professional knowledge and increase the likelihood of desired outcomes for individuals and populations."[6]

"Doing the right thing for the right patient, at the right time, in the right way to achieve the best possible results" is how the Agency for Healthcare Research and Quality (AHRQ) defines quality

health care.[7] Nurses deliver high-quality care by providing care that is safe, effective, person-centered, timely, efficient, and equitable.[8]

Specialised abilities is needed by nursing and medical staff to ensure the best potential outcome for a patient under IABP management. When it comes to treating patients with IABP, nurses are essential. It is necessary for nurses to understand the workings of this therapeutic device in order to provide care for patients who are managed with it. Cardiovascular nurses are responsible for the care of these patients, and their profession demands skills and knowledge that allow them to quickly identify and treat potentially fatal balloon pump therapy issues. Thus nurses need to know about the IABP and care of patients on IABP. Therefore this study is conducted to assess the effectiveness of teaching programme regarding care of patient with Intra-Aortic Balloon Pump (IABP) upon the level of knowledge among nursing officer of AIIMS, bhopal.

RESEARCH PROBLEM

What is the benefit of Nurse led intervention on nursing officer knowledge regarding care of patent with intra aortic Balloon pump?

AIM OF THE STUDY

The aim of this study is to evaluate the effectiveness of nurse led intervention on knowledge of nursing officer regarding care of patient with Intra- aortic balloon pump in hospital of AIIMS, Bhopal.

RESEARCH QUESTION

a) what is the level of knowledge regarding care of patient with intra aortic balloon pump in pretest and posttest among nursing officer of AIIMS, Bhopal.

b) what is the effectiveness of Nurse led intervention on knowledge of Nursing Officer regarding care of patient with intra aortic balloon pump.

c) Is there any association between level of knowledge regarding care of patient with intra aortic balloon pump and selected demographic variable.

OBJECTIVES

a) To assess the existing level of knowledge regarding care of patient with intra aortic balloon pump both in experimental and control group.

b) To compare the knowledge score between experimental and control group after implementation of the nurse led intervention.

c) To find out the association between pretest knowledge score regarding care of patient with intra aortic balloon pump and selected socio-demographic variable.

HYPOTHESIS

H1- There is significant difference between post-test knowledge score to the pre-test knowledge score following implementation of the Nurse led intervention

ASSUMPTIONS

a) Nursing officer will have some previous knowledge regarding IABP.

b) Nurse led intervention will have some effects on knowledge of nursing officer.

DELIMITATION

The study is delimited to nursing officer of CTVS ward, CTVS ICU, Cardiology ward and medical ICU of AIIMS, Bhopal who are available at the time of data collection.

OPERATIONAL DEFINITIONS

Knowledge- In this study it refers to the awareness and understanding of nursing officer regarding the various aspects of care of patients with intra-aortic balloon pump (IABP) as measured by structured questionnaire developed by the investigator.

Nursing officer- In this study, it refers to those qualified and registered nursing officer working in the AIIMS, hospital.

Nurse led intervention- In this study, it refers to the structured educational programme provided to nursing officer regarding IABP care which includes concepts of IABP , care provided before, during and after insertion of IABP through 60 minute session of lecture cum discussion class through 1 hour session of power point based Presentation.

CONCEPTUAL FRAMEWORK

The conceptual framework for this study is based on general systems theory with input, throughput and output and feedback as introduced by Ludwig Von Bertalanffy (1968)

The general system theory puts forth the premise that Organizations, like living Organisms, are made up of numerous component subsystems that must work together in harmony for the larger system to succeed.

Accordig to this theory, a system is a group of elements that interact with one another in order to achieve the goal. An individual is a system because he or she receives input from the environment. This input when processed provides an output.

Input:- Input involves infromation, material and energy that enters the system. In the present study nursing officer are system with input from self and those aquired from the environment. These input includes sociodemographic data like age, gender, education status, year of work experience, Any previous experience, Any previous knowledge, which may influence the knowledge of nursing officer regarding IABP

Process:- After the input is absorbed by the system, it is processed in a way useful to the system . structured educational programme will be provided to nursing officer regarding IABP care which includes concepts of IABP , care provided before, during and after insertion of IABP through 60 minute session of lecture cum discussion class. Researcher will assess the pretest and posttest knowledge of the nursing officer through self structured questionnaire.

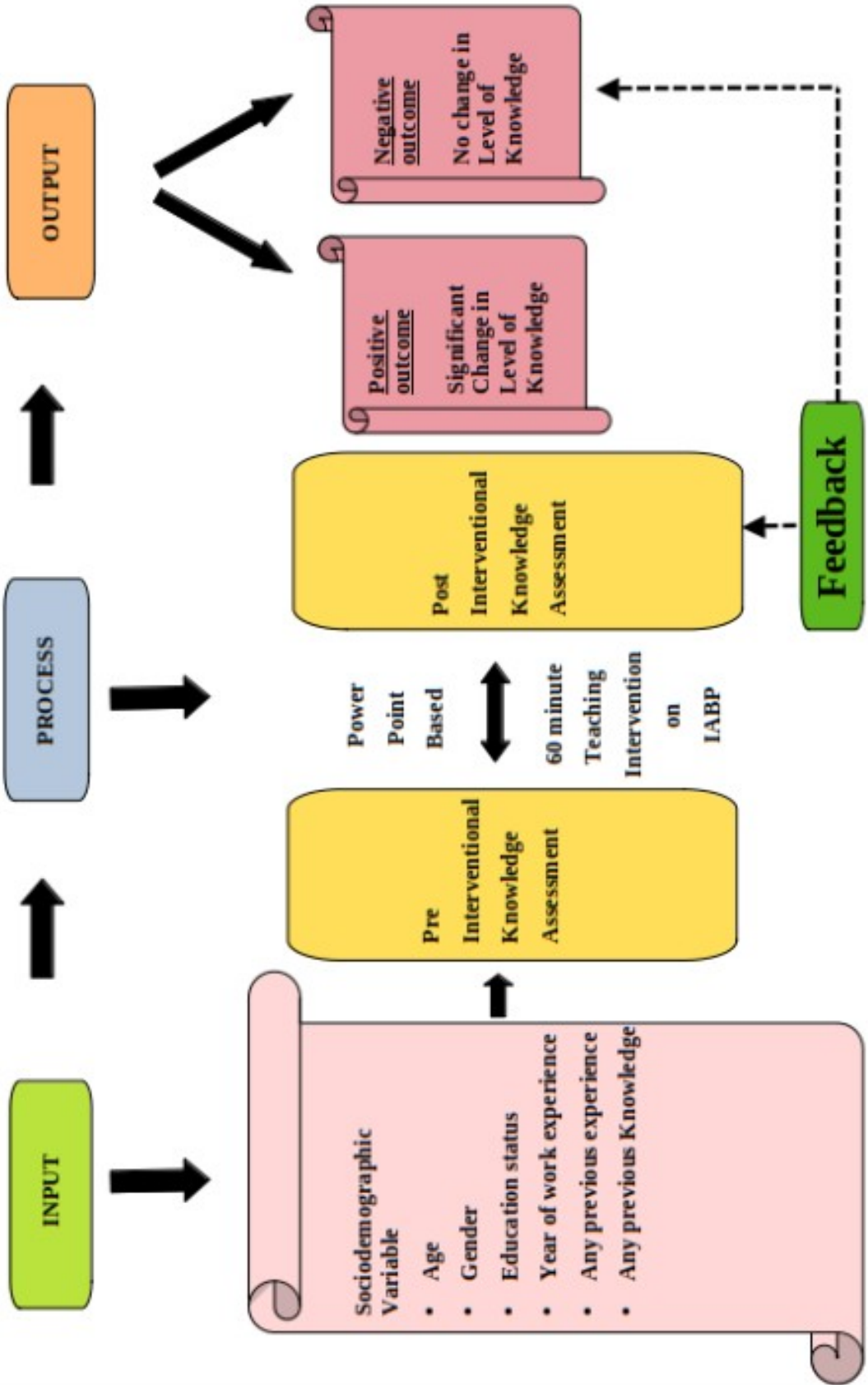
Output :- output from a system is energy, matter of information disposed of by the system as a result of its process.

In this study output was depicted as:

Favorable outcome: positive attitude (change in the level of knowledge)

Unfavorable outcome: Negative attitude (No change in the level of knowledge)

-


INPUT
PROCESS
OUTPUT
Sociodemographic Variable
• Age
• Gender
• Education status
• Year of work experience
• Any previous experience
• Any previous Knowledge
Pre Interventional Knowledge Assessment
Power Point Based 60 minute Teaching Intervention on IABP
Post Interventional Knowledge Assessment
Positive outcome
Significant Change in Level of Knowledge
Negative outcome
No change in Level of Knowledge
Feedback

SUMMARY

This chapter includes background and need of the study , aim of the study, objectives, hypothesis, assumptions, delimtations, operational definition and conceptual framework.

CHAPTER 2

REVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERARTURE

Finding, assessing, and synthesising the body of accomplished and documented work created by academics, practitioners, and researchers can be done methodically, explicitly, and reproducibly through the use of a literature review.

Review of literature is an essential step in research project. It provides bases for further investigation; justify the need for study; throws light on the flexibility of study; reveals constraints of data collection and relates the finding from the study to another with a hope to establish a comprehensive study of scientific knowledge in a professional discipline, from which valid theories develop. [11]

An in-depth review of the literature was done using a number of search engines, including Google Scholar, Science direct, Research Gate and PubMed using keywords like Intra aortic balloon pump, Knowledge, Nursing officers, Nurse led Intervention, structured teaching programme and boolean operators used AND & OR.

Literature review is divided into three sections as follows:

1. Literature related to Intra aortic balloon pump

2. Literature related to care of patient with Intra aortic balloon pump

3. Literature related to intervention to improve care of patient with intra aortic balloon pump

Literature related to Intra aortic balloon pump

A study conducted by Nan Tie E et al. in 2023 0n "Trends in Intra-Aortic Balloon Pump Use in Cardiogenic Shock After the SHOCK-II Trial". The prognosis for myocardial infarction complicated by cardiogenic shock (MI-CS) is not good, even if revascularization occurs quickly. Although the IABP-SHOCK-II (Intra-aortic Balloon Pump in Cardiogenic Shock-II research) trial demonstrated no survival effect, previously it was believed that the use of intra-aortic balloon pumps (IABPs) would enhance outcomes. Our goal was to ascertain the patterns of IABP use over time in individuals who had percutaneous intervention. Patients with MI-CS who received percutaneous intervention were included in the Melbourne Interventional Group registry from 2005 to 2018, and data were obtained from them. The trend in IABP use over time was the main result. 30-day mortality and major adverse cardiovascular and cerebrovascular events (MACCEs) were the secondary endpoints. IABP was utilised in 478 patients (43%), out of the 1,110 patients with MI-CS. Patients with reduced ejection fraction (<35%; 18% vs. 11%), preprocedural inotrope use (81% vs. 73%, all $p < 0.05$), and left main/left anterior descending culprit lesions (62% vs. 46%) utilised IABP more frequently. The use of IABP was linked to increased 30-day MACCE (58% vs. 51%, both $p < 0.05$) and bleeding (18% vs. 13%). Over time, the annual rate of MI-CS increased; however, the use of IABP decreased after 2012 ($p < 0.001$). (odds ratio 1.6, 95% confidence interval 1.18 to 2.29, $p = 0.003$). IABP use was a predictor of 30-day MACCE. But there was no correlation between IABP and 30-day, long-term, or in-hospital mortality ($p = 0.44$ for in-hospital; $p = 0.25$ for 50%; $p = 0.39$ for long-term; 45% vs. 47%). [16]

In conclusion, IABP was linked to more short-term adverse events but not to a decrease in either short- or long-term mortality. Although it is mostly used in sicker patients who are more at risk for myocardial infarction, the usage of IABP is declining.

An observational study conducted by zheng et al. in 2020 on "Prophylactic intra-aortic balloon pump in patients with left main disease undergoing off-pump coronary artery bypass grafting". This study included 257 consecutive patients who received OPCABG by sternotomy between January 2013 and April 2020. More than 70% of LMD patients had stable hemodynamics (BP>100 mmHg) in the absence of vasoconstrictor drug infusion. This study compared the early results of 125 individuals who received preventive IABP (IABP group) with 132 patients who did not get IABP (Control group). Outcome disclosed For the conversion to CPB (RR0.63, 95%CI0.05–7.89, P = 0.7211), perioperative MI (RR0.69, 95%CI0.22-2.12, P = 0.5163), mortality (RR0.65, 95%CI0.10-10.25, P = 0.7608), or the composite end of the conversion, MI, and mortality (RR0.63, 95%CI0.23-2.74, P = 0.3747), IABP did not demonstrate a positive effect. After correction, there was a higher prevalence of extended breathing in IABP (RR2.16, 95%CI 1.12–4.18, P = 0.0221).There was no limb ischemia or death associated with IABP. Between the preventive IABP group and the control group, there was no discernible difference in the early results for hemodynamically stable individuals with LMD. In individuals with LMD undergoing OPCABG, prophylactic IABP may not be essential.12

An observational study conducted by Fan et al. In 2016 on "The outcomes of intra-aortic balloon pump usage in patients with acute myocardial infarction: a comprehensive meta-analysis of 33 clinical trials and 18,889 patients". A total of 33 clinical studies with 18,889 participants were found. IABP usage was associated with a significant reduction in the risk of long-term mortality in patients with acute myocardial infarction (odds ratio [OR] 0.66, 95% confidence interval [CI]: 0.48–0.91, P=0.010). The IABP use group did not significantly differ from the no IABP use group in terms of either in-hospital or midterm mortality (midterm: OR 1.12, 95% CI: 0.53–2.38, P=0.768; in-hospital: OR 0.87, 95% CI: 0.59–1.28, P=0.479). The risk of reinfarction, recurrent ischemia, or new heart failure was not linked to IABP implantation. On the other hand, the use of

IABP raised the risk of stroke (OR 1.71, 95% CI: 1.04–2.82, P=0.035) and severe bleeding requiring blood transfusion (OR 2.05, 95% CI: 1.29–3.25, P=0.002). There were lower death rates after IABP treatment in the subgroups for cardiogenic shock and thrombolytic therapy .In conclusion, implantation of an IABP can potentially improve long-term survival rates for patients with acute myocardial infarction, especially for those undergoing thrombolytic therapy and experiencing cardiogenic shock. However, this benefit comes at a higher risk of severe bleeding and stroke. [17]

A study conducted by Parissis et al. In 2016 on "IABP: history-evolution-pathophysiology-indications: what we need to know". For failing hearts, the most popular kind of mechanical support is the intraaortic balloon pump (IABP). Presystolic balloon deflation lowers the balloon's resistance to systolic output, while diastolic pressure augmentation during balloon inflation promotes coronary circulation. As a result, there is less cardiac work. The overall result of the IABP therapy is an increase in endocardial viability as well as the myocardial oxygen supply/demand ratio.In conclusion, an increase in diastolic pressure during balloon inflation enhances the coronary circulation, which justifies the usage of the IABP. Additionally, pre-systolic balloon deflation lowers the balloon's resistance to systolic output, which lowers myocardial work. Positive results from the large number of patients who are weaned off of the device attest to the effectiveness of the IABP. Patients who receive early device deployment have a greater success rate, which is indicative of the reversible nature of ischemic pathology and the beneficial role of the IABP in halting the progression of ischemic heart disease consequences. The field of mechanical circulation support is one that is advancing quickly.[14]

A study conducted by curtis JP et al. In 2012 on "Use and Effectiveness of Intra-Aortic Balloon Pumps Among Patients Undergoing High Risk Percutaneous Coronary Intervention: Insights From the National Cardiovascular Data Registry".The use of intra-aortic balloon pumps (IABP) to sustain

hemodynamics during high-risk percutaneous coronary intervention (PCI) is common, yet there is conflicting clinical evidence to support this practice. Information sent between January 2005 and December 2007 to the CathPCI Registry. Using a hierarchical logistic regression model to account for variations in patient and hospital variables between hospital quartiles of IABP use, the study looked at differences in in-hospital mortality among hospital quartiles. For 181 599 high risk PCIs, IABPs were used in 18 990 cases (10.5%). Hospital quartiles Q1, 0.0 to 6.5%; Q2, 6.6 to 9.2%; Q3, 9.3 to 14.1%; and Q4, 14.2 to 40.0% showed substantial variations in the proportional use of IABP. Multivariable analysis revealed that in-hospital mortality was similar across hospital IABP consumption quartiles (Q1, Ref; Q2, odds ratio 1.11, 95% CI 0.99–1.24; Q3, OR 1.03, 95% CI 0.92–1.15; Q4, OR 1.06, 95% CI 0.94–1.18), once patient and hospital variables were adjusted for. The usage of IABP for high risk PCI was shown to differ considerably amongst hospitals. [15]

A study conducted by the Holger Thiele el al. On “Intraaortic Balloon Pump in Cardiogenic Shock Complicating Acute Myocardial Infarction” study design used was The IABP-SHOCK II trial is a multicenter, randomized, open-label trial. 600 patients with acute myocardial infarction complicated cardiogenic shock who underwent early revascularization between 2009 and 2012 were randomised to either IABP or control. According to the study, 6.2 years (interquartile range: 5.6–6.7) had passed since the first randomization when the long-term follow-up was carried out. For 591 out of 600 patients, the follow-up was finished (98.5%). Between the IABP and the control group, there was no difference in mortality (66.3% versus 67.0%; relative risk, 0.99; 95% CI, 0.88–1.11; P=0.98). Recurrent myocardial infarction, stroke, repeat revascularization, and rehospitalization due to cardiac causes did not vary (all P>0.05). There was no difference in the quality of life of survivors between the groups as determined by the New York Heart Association class and the EuroQol 5D questionnaire. In conclusion, during a 6-year long-term follow-up, IABP has no influence on all-

cause mortality. Even with modern revascularization treatments, two thirds of patients with cardiogenic shock still die. This indicates that mortality is still relatively high.[13]

Literature related to care of patient with Intra aortic balloon pump

An observational study conducted by Lewis, Peter A. and Ward, Darian Adriel and Courtney, Mary D. (2009) on "The intra-aortic balloon pump in heart failure management-Implications for nursing practice." This research provided an overview of the topic In critical care, the treatment of sudden heart failure is crucial. Improving the condition of the failing heart requires mechanical support. Intra-aortic balloon counterpulsation, or IABP, is most frequently used in the context of cardiogenic shock in Australia. Compared to hospitals that utilise minimal IABP (<4/annum), high end users of IABP (>37/annum) show considerably decreased mortality for cardiogenic shock handled with IABP ($p<0.001$). This emphasises how crucial it is to manage the patient getting IABP support with skill. When it comes to treating patients with sudden heart failure, nurses are vital. With an emphasis on anticipated improvements in heart function, the nurse can successfully manage patients treated with IABP by being aware of these physiological effects. [18]

An Evidence-Based Analysis conducted by Zhnag Y et al. on "Observation for Nursing Care of Patients with Intra-Aortic Balloon Pumping." Data analysis was done on fifty-two patients. Data on the usage of sedatives, emotions, behavioural problems, hearing loss, pain, total time on board the IABP, and days of hospitalisation of patients were gathered based on the various discharge diagnoses and outcomes of the patients. Frequency analysis, stepwise regression, paired chi-square analysis, chi-square test, and Poisson regression were all used to the data. The following were some conclusions drawn from the analysis: (1) Analysis of the matched data revealed substantial variations between admission diagnosis and outcome. The majority of patients with coronary

atherosclerotic heart disease, myocarditis, and heart disease are in the better state, while those with heart failure and acute myocardial infarction are in the unhealed state. There were no discernible variations in the emotional and behavioural problems, hearing loss, or discomfort in the samples obtained with the various sedatives. (3) The entire duration of the IABP's functioning was significantly impacted negatively by a single hospital visit. On the other hand, the overall time spent on the IABP was unaffected by the diagnosis at admission or discharge. (4) The entire period spent on board the IABP is significantly impacted negatively by the dorsalis pedis artery pulse state.[19]

A study conducted by Rasaria and Sawant et al. In 2019 on “The Role of Nurses in Patients with Intra-aortic Balloon Pump: Involvement, Understanding, and Management of the Patient’s Comfort.” in conclusion in order to attain optimal outcomes from the IABP, staff nurses' knowledge and behaviours must be sufficient. To provide quality care and avoid issues related to IABP, it is critical that nurses participate in regular in-service education programmes to advance their knowledge and practical skills while providing patient care.[20]

A study conducted by Queiroz da Silva Sf et al. In 2023 on “Nursing care of critically ill patients with intra-aortic balloon pumps: a scoping review”highlighted that patients with a range of illnesses needing critical care are now included in the growing list of indications for intra-aortic balloon pumps. This scoping study aims to identify and characterise the various facets of the role that nurses play in the treatment of these patients. There were ten pieces in all, emphasising how nursing care is included at every stage of the process—from getting ready for insertion until weaning. Nurses play a crucial role in detecting and averting complications by keeping an eye on the patient's respiratory, gastrointestinal, vascular, and haemodynamic conditions as well as infection control protocols. The magnitude and intricacy of these nursing responsibilities underscores the significance of specialised education for nurses.[21]

A descriptive study was conducted by Sanaa Kamel Hassan Amin et al. In 2023 to assess Nurses'Performance Regarding Care of Patients Undergoing Intra-Aortic Balloon Pump Therapy. A descriptive exploratory design was utilized in this study. Forty nurses' convenience samples were used in the current investigation. The adult cardiac surgery intensive care units at the Cardio Thoracic Academy, which is connected to Ain Shams University Hospitals, served as the study's sites. Instruments for gathering data: This investigation employed two instruments: Tool I: Self-Administered Interview Questionnaire It was split into two sections: the Nurses' Knowledge Assessment Questionnaire (B) and the Demographic Features of the Studied Nurses (A). An observational checklist, or Tool II, is employed to evaluate the way nurses care for patients receiving intra-aortic balloon pump therapy. The majority of the nurses in the study had, according to the results, an inadequate degree of knowledge and an incompetent level of practice (90% & 92.5%). The study found that among the nurses under study, there was a highly statistically significant strong positive link between their overall level of practice and knowledge regarding the care of patients receiving intra-aortic balloon therapy.

Literature related to intervention to improve care of patient with intra aortic balloon pump

An experimental study was conducted by Mahgoubn et al. (2017) in february 2017 To assess the Effect of Implementing Intra-Aortic Balloon Pump Teaching Program on Critical Care Nurse's knowledge and Practice. Pre/post research design was employed in the study's execution. The study contained 40 nurses' convenience samples. According to the study, most nurses had inadequate IABP understanding and practice prior to the education programme, which has since improved. Additionally, a positive association was discovered between the study subjects' knowledge and practice results.In conclusion, improving the practice and understanding of critical care nurses would benefit their performance and knowledge. The study suggested that continual in-service

training programmes be implemented to update critical care nurses' understanding and application of IABP .

A quasi-expeimental study was conducted by Rasaria S, Sawant S. et al. In 2019 to Assess the Effect of Planned Teaching Programme on Knowledge and Practice regarding management of Patient with Intra-Aortic Balloon Pump among Staff Nurses Working in Intensive Care Unit of Selected Hospital. Fifty ICU staff nurses participated in this investigation. In this study, non-probability convenient sampling was the method of sampling. A structured knowledge questionnaire and a self-reported checklist based on practice were created in accordance with the study's objectives in order to assess staff nurses' knowledge and performance both before and after a scheduled education course. According to the study, staff nurses' posttest scores on knowledge and practice were far higher than their pretest scores.For knowledge, the computed t-value came out to be 31.76, above the table t-value of 2.01 at the 0.05 level of significance. Similarly, for practice, the calculated t-value came out to be 27.77, surpassing the table t-value of 2.01 at the 0.05 level of significance. The study found that improving staff nurses' knowledge and skills might be achieved by instruction using a planned teaching schedule.

A quasi experimental study was conducted by Y. Ghafoor, H. Sarwar, M. Afzal et al. In 2022 to assess the The Effect of Teaching Programme on Knowledge and Caring Practice of Intra-Aortic Balloon Pump Patient Among ICU Staff Nurses.From October to December 2018, a Qausi experimental study design was employed. Forty ICU and CCU nurses at Punjab Institute of Cardiology in Lahore provided the data. Convenient sampling was the sample technique employed. The majority of nurses had inadequate knowledge and experience with intra-aortic balloon pumps prior to the educational programme, which was improved following the study's educational session, according to the results. The study came to the conclusion that improving cardiac critical care

nurses' expertise would have a knowledgeable and proficient impact on their expertise and practices.

A pre-experimental study was conducted by Neelavathi D et al. In 2020 to assess the Effectiveness of a capacity building programme regarding care of patient with intra-aortic balloon pump (iabp) among nurses. A pre-experimental study was conducted among 60 nurses who worked in cardiac units at particular hospitals in Chennai, using a pre-test-post-test research design with one group. The pre-test level of experience and knowledge about treating patients with IABP was evaluated. After a post-test, a capacity-building programme on the care of patients with IABP was given. The findings showed that, when it came to providing care for patients with IABP, the majority of nurses had average levels of practice (78.33%) and relatively good knowledge (73.33%). Nurses' knowledge and skills regarding the care of patients with IABP were improved through a capacity building programme.

A quasi-experimental study was conducted by Rajni Thapa and Gita Neupane, et al. 2018 to assess the effectiveness of structured teaching programme (STP) on knowledge regarding intra-aortic balloon pump (IABP) implantation therapy in coronary artery bypass grafting (CABG)among the staff nurses of selected hospitals in Dehradun." To evaluate the impact of a structured teaching programme (STP) on staff nurses' understanding of intra-aortic balloon pump (IABP) implantation therapy in coronary artery bypass grafting (CABG), a quasi-experimental study was carried out in a few Dehradun hospitals. Sixty staff nurses were chosen using a purposive sample strategy for a quasiexperimental one group pre and post-test design. Following a structured instruction session, the majority of staff nurses—71.7%—reported having adequate awareness of IABP. The Structured understanding Questionnaire was used to evaluate the impact of a structured education programme on staff nurses' understanding of the IABP. The results showed that knowledge rose 48.96 percent at

$p<0.05$ following the intervention. The knowledge score of staff nurses increased dramatically following STP, according to the results.

Another continuing educational activity study conducted by the Tahir M. Khan; Abdul H. Siddiqui et al. In april 2023 to assess,how the care of patients with cardiogenic shock who need IABP assistance can be improved by an interprofessional team approach. Reviewing the anatomic and physiological effects of the intra-aortic balloon pump, as well as the indications for the procedure, the technique of intraaortic balloon pump placement, and outlining interprofessional communication strategies to support timely decisions about the escalation or deescalation of care in accordance with the patient's goals of care and the long-term prognosis with an intra-aortic balloon pump were among the study's objectives.

Similarly, A quasi experimental study conducted by Abd El-Rahman Salah Mohamed et al. To assess the Effect of Educational Guidelines on Nurses' Performance regarding Caring of Patients with An Intra-Aortic Balloon Pump. A quasi-experimental, pre and post-test intervention research design was implemented to conduct the current study. a convenient sample of the 64 nurses who were involved in the trial and were accessible. Data was gathered using two instruments: I) A pre-made questionnaire sheet with two sections (II) A checklist for nurses' observations while caring for patients receiving intra-aortic balloon pump therapy. The study's findings showed that, when it came to the nurses' overall knowledge of caring for patients who had an intra-aortic balloon pump, 62.5% of them had inadequate knowledge to be satisfactory during the first two months after the guidelines were implemented, among 89.1% and 81.2%, respectively, and 67.2% had inadequate practice to be competent during the same period, among 92.2% and 79.7%, respectively. and between total knowledge and total practice at the post and follow-up guidelines Implementation, there was a highly statistically significant positive association. According to the study's findings, nursing performance improved statistically significantly when it came to providing care for patients

who had an intra-aortic balloon pump both immediately following and two months after the guidelines' introduction as opposed to before.

A descriptive exploratory study was conducted by Tharwat Ibrahim Rushdyet al. In september 2015 to assess the Nurses' knowledge and practice regarding care of patients connected to intra-aortic balloon pump at Cairo university hospitals. An exploratory descriptive design was applied. The study contained 40 nurses' convenience samples. A nurse's personal background sheet, an IABP nurse's knowledge self-administered questionnaire, and an IABP nurse's practice observational checklist were the three instruments created and put through clarity and viability testing. According to the study's findings, the majority of the sample (88% & 95%, respectively) had inadequate knowledge and practice levels, with respective means of 9.45+2.94 & 30.5+8.7. Unsatisfactory knowledge was found regarding description and physiological effects, nursing care, indications, contraindications, complications, weaning and removal of IABP in percentage of 95%, 90%, 72.5% & 57.5%, respectively with a mean total knowledge score of 9.45+2.94.With a mean total knowledge score of 9.45+2.94, inadequate information was discovered about the description and physiological effects, nursing care, indications, contraindications, complications, weaning, and removal of IABP in percentages of 95%, 90%, 72.5%, and 57.5%, respectively. Furthermore, inadequate procedures were discovered in relation to IABP therapy preparation and beginning, nursing care during therapy, and IABP weaning and removal in percentages of (97.5%, 97.5% & 90%), in that order. Lastly, it was discovered that there was a significant gender difference in knowledge level (t=2.46, at $P \leq 0.018$). But when it came to practice, gender was irrelevant (t=0.086, at P 0.932). study found that critical care nurses in the current study had generally inadequate knowledge and practice regarding care of patients associated to IABP, despite their crucial role in the assessment and management of critically sick patients.

Research Gap: Previous studies were mostly quasi experimental and Pre experimental . The present study has used true experimental study design to assess the effectiveness of Nurse led intervention on knowledge of Nursing Officer regarding Nursing care of intra aortic balloon pump. True experimental study is considered to be the most strogest study design.

SUMMARY

This chapter dealt with an in depth review of various literature related to Intra Aortic Balloon Pump, care of patient with Intra aortic balloon pump and literature related to intervention to improve care of patient with intra aortic balloon pump.

CHAPTER 3

MATERIALS AND METHODS

CHAPTER 3

MATERIALS AND METHODS

The methodological approach to conducting research is known as research methodology. It includes the issue statement, the study's objectives, the data collection techniques, the statistical techniques used to analyse the data, and the reasoning behind them.

The description of the research methods used in this study is covered in this chapter. The research methodology describes how the study was conducted at each stage and the tools, techniques, and interventions that the researcher employed.

RESEARCH APPROACH

A quantitative approach was used to accomplish the objectves of the study Intended to gather data regarding cardiopulmonary resuscitation

RESEARCH DESIGN

The research design used for the study is True Experimental Research Design (Rnadomized Controlled Trial)

R ⟶ E ⟶ O1 ⟶ X ⟶ O2

R ⟶ C ⟶ O1 ⟶ O2

O1- Pre-test assessment of nursing officers

O2- Post-test assessment of nursing officers on day 4

RESEARCH VARIABLES

There are two types of varables included in the study Research variable and Sociodemographic variable

A) Research variable

In this study, research variables are :

Nurse led intervention (Independent variable) : 60 minute of power point based lecture cum discussion class on IABP conducted by Investigator for Nursing officer in Experimental group

Knowledge of nursing officer regarding care of patient with Intra- aortic balloon pump in hospital of AIIMS, Bhopal (Dependant variable)

RESEARCH SETTING

CTVS ward, CTVS ICU, Cardiology ward and medical ICU of All India Institute Of Medical Sciences hospital, bhopal, Madhya Pradesh.

POPULATION

Target Population: Nursing officer of AIIMS, Bhopal

Accessible Population: Nursing officer of CTVS ward, CTVS ICU, Cardiology ward and medical ICU of AIIMS, Bhopal

SAMPLE

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \frac{z2 \times p\,(1-p)}{e^2 N}}$$

N=150, z=1.96, z square= 3.8416, p=0.5, p-1=0.5-1,e=0.1, e square= 0.01, n-num=96.04, D-Den=1.64026667, sample size= 58.55=59

N = Population size,

Z = Critical value of the normal distribution at 95% confidence level,

p = Sample proportion,

e = Margin of error

The sample size was determined using Wall street mojo software based on results of previous studies.

This sample size calculated was 59

Researcher rounded off the sample size is 60 (30 control and 30 experimental)

SAMPLING TECHNIQUE

The sample was selected by convenient sampling method, those subjects Who fullfill the inclusion were included in the study.

METHOD OF RANDOMIZATION- Coin flipping (ANNEXURE 7)

INCLUSION CRITERIA

The study includes nursing officers of AIIMS, Bhopal

- Who are willing to participate In the study .
- Who are present at the time of data collection.

EXCLUSION CRITERIA

The study excludes Nursing officer of AIIMS, Bhopal

- Who wre not present at the time of data collection .

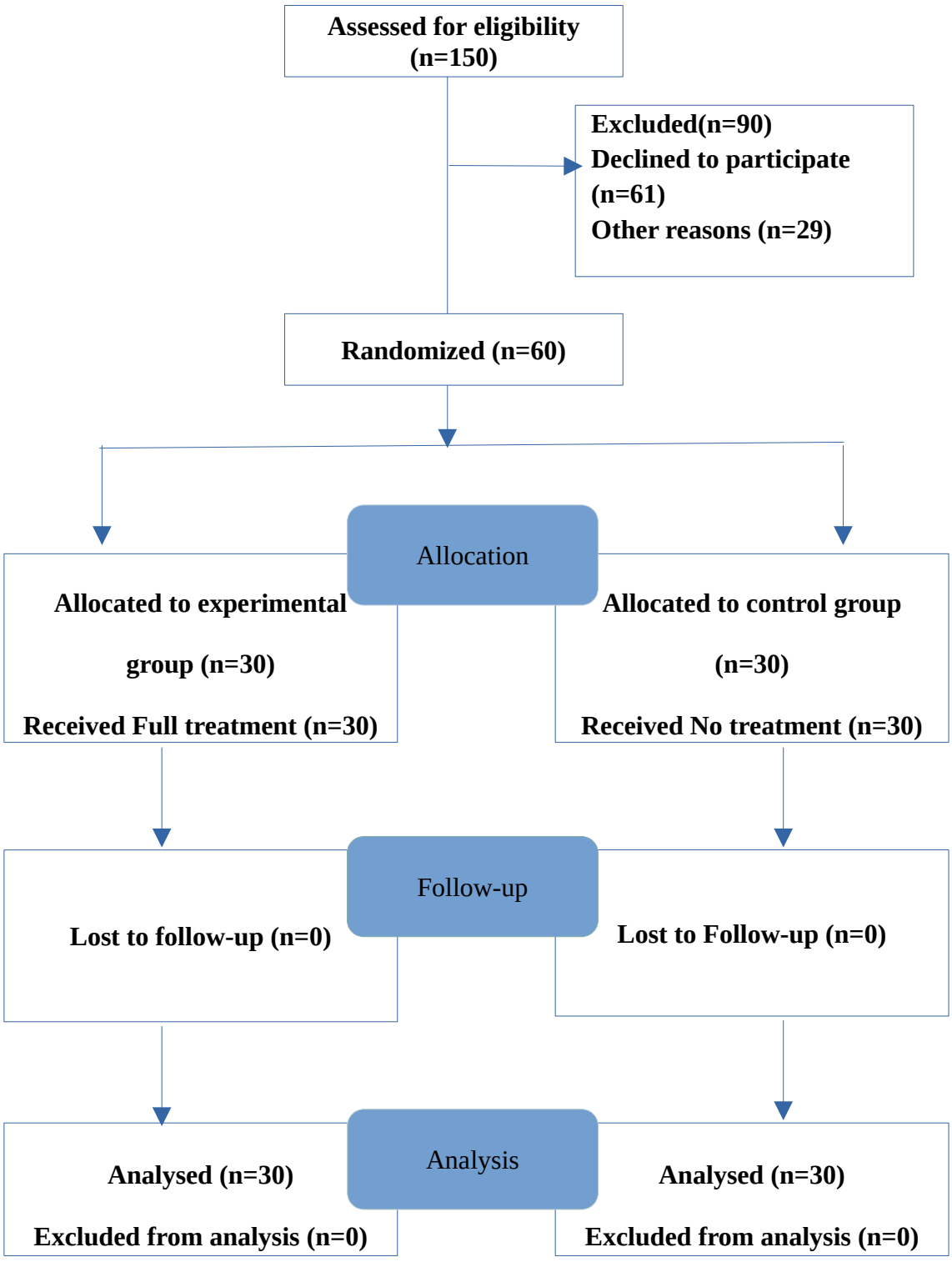


Figure -CONSORT flow diaram for randomized controlled trial

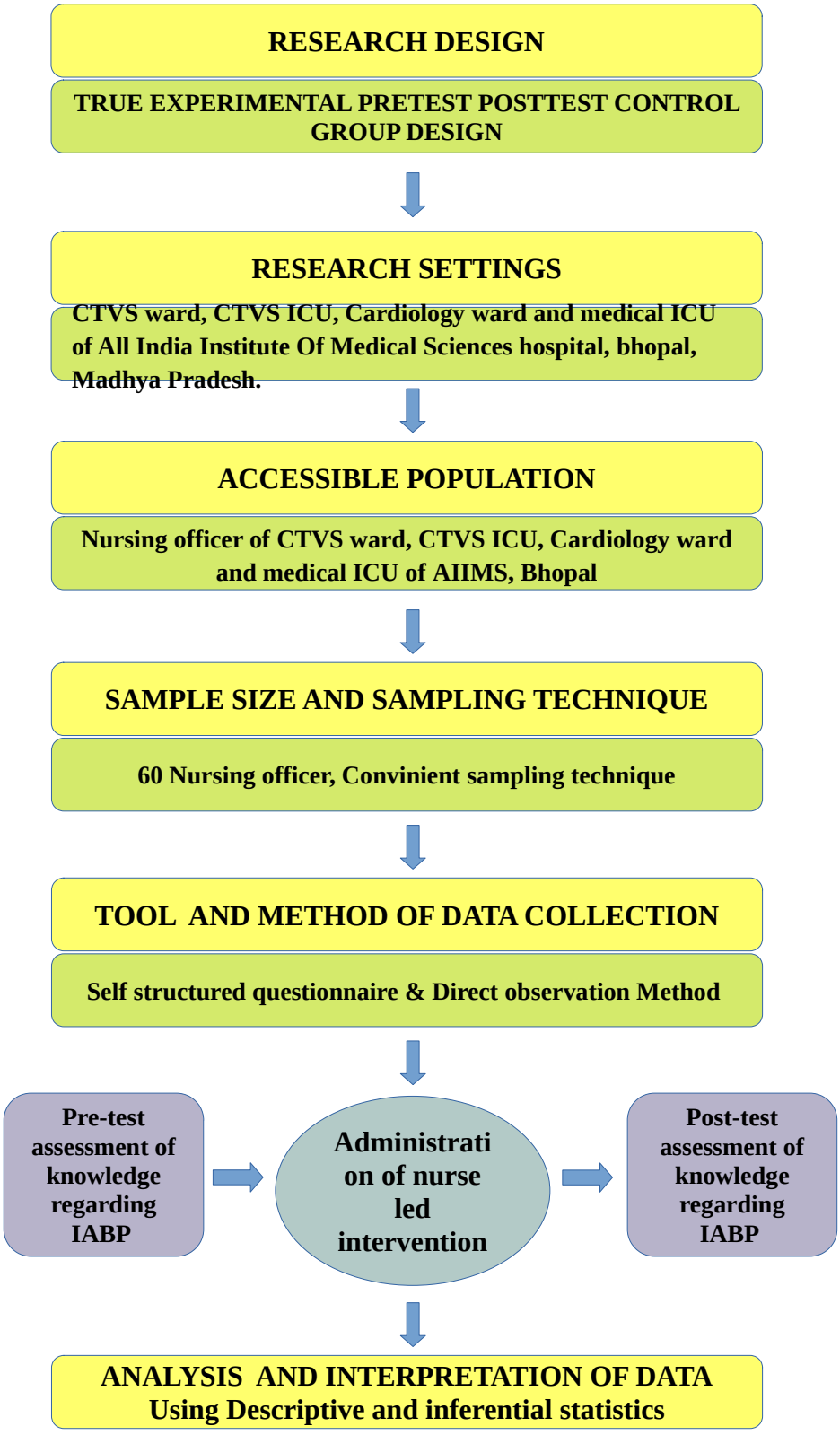

RESEARCH DESIGN
TRUE EXPERIMENTAL PRETEST POSTTEST CONTROL GROUP DESIGN
RESEARCH SETTINGS
CTVS ward, CTVS ICU, Cardiology ward and medical ICU of All India Institute Of Medical Sciences hospital, bhopal, Madhya Pradesh.
ACCESSIBLE POPULATION
Nursing officer of CTVS ward, CTVS ICU, Cardiology ward and medical ICU of AIIMS, Bhopal
SAMPLE SIZE AND SAMPLING TECHNIQUE
60 Nursing officer, Convinient sampling technique
TOOL AND METHOD OF DATA COLLECTION
Self structured questionnaire & Direct observation Method
Pre-test assessment of knowledge regarding IABP
Administration of nurse led intervention
Post-test assessment of knowledge regarding IABP
ANALYSIS AND INTERPRETATION OF DATA
Using Descriptive and inferential statistics

Figure -Schematic representation of the study

SELECTION AND DEVELOPMENT OF TOOL

A self-structured questionnaire containing 25 items was prepared to assess the pre and post-test knowledge regarding Intra Aortic Balloon Pump.

DESCRIPTION OF TOOL (ANNEXURE 2)

The investigator intended to use a self-structured tool with the following items on it.

a) Section A consists of Socio- demographic proforma for nursing officers which Includes items like Age, gender, educational status, years of work experience, Previous experience of care of patient with Intra Aortic Balloon Pump , Do you have any knowledge regarding Intra Aortic Balloon Pump.

b) Section B consists of Self-structured questionnaire for knowledge assessment which includes 25 Multiple Choice question with four options and scoring each (Incorrect Response-0, Correct-1)

Criterion measures

Section b

Contains 25 itmes with score 0-1 for each item (Incorrect 0, correct-1)

Scoring ranges from 0-25

Interpretation of score is as follows

Category	**Score**
>80 % (21-25)	High knowledge
60-79 % (15-20)	Average Knowledge
40-59 % (10-14)	Poor knowledge
<40% (0-9)	Very poor knowledge

Validity of the tool

Content validity of the tool and intervention protocol was checked.

Procedure for content validity inculded

- Preparing content validation form.

- Selecting a review panel of experts.
- Conducting content validation by experts.
- Reviewing domain and items.
- Providing score on each item.
- Calculating content validity index.

SCALE CVI

Scale validity index was calculated using both Average method and Universal method (32)

	Average Method	Universal agreements Method
Section A	1	0.750
Section B	0.95	0.950
Overall scale CVI	0.973	0.833

Content validity of the power point presentation and lesson plan was also checked And S-CVI for the same was 0.92

Reliability of the tool

Reliability calculated using **Test-Retest** method and **Split half** method.

Test-Retest

Section A – Socio-demographic profile

Section B- Self structured questionnaire to assess the knowledge regarding IABP among Nursing officer.

r=0.956

Split half

Section B- Self structured questionnaire to assess the knowledge regarding IABP among Nursing officer

r=0.825

Description of intervention

60 minute of power point based lecture cum discussion single class was conducted in CTVS ward of All India Institute of Medical Sciences (AIIMS), Bhopal on 23.November.2023 by investigator (Ms. Saman Naseema) with 30 Nursing officer of experimental group. Class on IABP include (Introduction of intra-aortic balloon pump, Components of IABP, ,List down the indication and contraindications of IABP, Generalize the mechanisms of IABP, Nursing Care of patient on IABP before, during and after insertion, what is balloon weaning, point out the complications of IABP

ETHICAL CONSIDERATION

- Proposal submitted to the institutional ethics committee and Letter of permission obtained
- Written Informed consent was taken from the study participants.
- Confidentiality and Anonymity of the participants maintained by assigning code numbers for participants
- Permission was taken from Medical superintendent, Principal-Nursing College and notified Head of respective departments and Senior Nursing Officers of respective departments prior to data collection.

PILOT STUDY

Prior to devoting more time and resources to a large-scale research project, a pilot study is a small-scale research effort designed to evaluate its efficacy.

A pilot survey enables researcher to confirm that the strategy, target and methodology are all effective in achieving the research objective, without having to commit the full budget and time to the main study without knowing the results. In present study, Pilot study was conducted on

15.september. 2023 in Medical ward 1 And Medical ward 2 . Total 12 sample were randomized through coin flipping into group (6 experimental and 6 Control) as per inclusion criteria to check the Feasibility of the study. The tool was found to be legitimate and dependable. Both the training intervention and the tool's language were acceptable and straightforward. Investigator did’nt face any any difficulty during pilot study.

PROCEDURE OF DATA COLLECTION

Screening using inclusion and exclusion criteria.

Full disclosure regarding study participation and informed consent.

Random allocation through coin flipping into control and experimental group.

Pretest data collected from nursing officers to assess knowledge

regarding Intra Aortic Balloon Pump.

Intervention(Power Point Based teaching on Intra Aortic Balloon Pump)

provided to the nursing officer of experimental group only.

On the 4 th day after providing intervention post test data collected from

Nursing Officer of both control and experimental group.

Analysis and interpretation of collected data

PLAN FOR DATA ANALYSIS

Data analysis planned to be analysed using microsoft excel and IBM's softwere version 20 by using descriptive and inferential statistical techniques

Distribution of Socio-Demographic variables using number and frequency percentage distribution.

Assessment of the level of knowledge regarding care of patient with Intra aortic balloon pump among Nursing Officer in pretest and post-test , data analysis using paired and unpaired test.

Association between level of knowledge regarding care of patient with Intra aortic balloon pump and selected demographic variable using chi square test.

SUMMARY

This chapter dealt with the description of research approach, research design, Research setting, study populations, sample and sampling technique and development of tool, description of tool, validity of tool, ethical consideration, pilot study, final data collection procedure and procedure of data analysis.

CHAPTER 4

RESULT

CHAPTER 4

RESULT

A scientific research Results section summarises the main conclusions of the study based on the techniques used to collect and examine data. It prepares the reader for further analysis and assessment in the Discussion section by presenting these facts in a logical order free from prejudice or authorial opinion. One of the main goals of the this section is to provide the data in a way that clearly illustrates how important the research question is.

ORGANIZATION OF RESULTS

Section A : Findings related to socio-demographic variables of nursing officer.

Section B : Findings related to the pre-interventional knowledge regarding IABP in experimental group and control group.

Section C : Findings related to the post-interventional knowledge regarding IABP in experimental group and control group.

Section D : Comparison of knowledge score between experimental and control group after implementation of the intervention.

Section E : Finding related to the association between pretest knowledge score regarding care of patient with intra aortic balloon pump among nursing officer and selected socio-demographic variable.

Major Findings

Section A : Findings related to socio-demographic variables of nursing officer

This section comprises of frequency and percentage distribution of socio-demographics variables

The socio-demographic characteristics of nursing officer include age, gender, education status, year of work experience, any previous experience of IABP, any previous knowledge of IABP.

Table 1 : Frequency and percentage distribution of sociodemographic variables in experimental v/s control group.

Demographic variables		**Association**						
Variables	**Opts**	**Experimental**	**Control**	**Chi Test**	**P Value**	**df**	**Table Value**	**Result**
Age	Upto 25 years	4 (13.3%)	12 (40.0%)	12.458	0.002	2	5.991	Significant
	26-30 years	15 (50.0%)	17 (56.7%)					
	31-35 years	11 (36.7%)	1 (3.3%)					
Gender	Male	20 (66.7%)	20 (66.7%)	0.000	1.000	1	3.841	Not Significant
	Female	10 (33.3%)	10 (33.3%)					
Education Status	GNM	6 (20.0%)	7 (23.3%)	1.055	0.788	3	7.815	Not Significant
	B.Sc nursing	19 (63.3%)	17 (56.7%)					
	Post Basic B.Sc Nursing	2 (6.7%)	4 (13.3%)					
	M.Sc Nursing	3 (10.0%)	2 (6.7%)					

Table continue....

Year of Work Experience	Upto 1 year	10 (33.3%)	9 (30.0%)	3.525	0.172	2	5.991	Not Significant
	2-5 years	12 (40.0%)	18 (60.0%)					
	6-10 years	8 (26.7%)	3 (10.0%)					
Any Previous Experience	Yes	6 (20.0%)	10 (33.3%)	1.364	0.243	1	3.841	Not Significant
	No	24 (80.0%)	20 (66.7%)					
Any Previous Knowledge	Yes	13 (43.3%)	12 (40.0%)	0.069	0.793	1	3.841	Not Significant
	No	17 (56.7%)	18 (60.0%)					

The finding of data presented in **Table 1** are :

INTERPRETATION

Majority of the Nursing officers were between the age group of (26-30 year) 15(50%) in experimental group and 17(56.7%) in control Group. Most of the of the Nursing officer were male 20(66.7%) and female 10(33.3%) Both in experimental and control group. More than half of the Nursing officer had B.Sc Nursing Degree 19(63.3%) In experimental group and 17(56.7%) in control group. Majority of the Nursing officer were having work experience of 2-5 years in Hospital 12(40%) in experimental group and 18(60.0%) in control group. Majority of the Nursing officer had no previous experience of working with the IABP patient in hospital 24(80%) in experimental

group and 20(66.6%) in control Group. Most of the Nursing officer had no previous knowledge of IABP before Intervention 17(56.7%) in experimental group and 18(60%) in control group.

Experimetal and control group were both homogenous with respect to all sociodemographic vardiables except age (p=0.002) where there was significant Difference.

Section B : Findings related to the pre-interventional knowledge regarding IABP among nursing officer in experimental group and control group.

Table 2: Frequency & Percentage distribution of Pretest knowledge scores in experimental group v/s control group.

(Pre-test) N=60		
Knowledge score	**Experimental group**	**Control group**
High knowledge (>80%)	0(0%)	2(6.7%)
Average knowledge(60-79%)	11(36.7%)	5(16.7%)
Low knowledge(40-59%)	16(53.3%)	10(33.3%)
Very low knowledge (<40%)	3(10%)	13(43.3%)

Table 2 describe the pretest knowledge related to IABP in experimental and control group

Interpretation

Majority of the participant, 16(53.3%) from experimental group and 13(43.3%) participant from control group scored in low knowledge and very low knowledge respectively and only 2(6.7%) participant from control group scored in high knowledge regarding IABP before intervention.

In high knowledge criteria (>80%), 0(0%)Nursing officer scored in high knowledge criteria in pretest in experimental group out of 30 participant And 2(6.7%) nursing officer scored in high knowledge criteria in pre-test in control group out of 30 participant.

In Average knowledge criteria (60-79%), 11(36.7%)Nursing officer scored in average knowledge criteria in pre-test in experimental group out of 30 participant And 5(16.7%) nursing officer scored in average knowledge criteria in pre-test in control group out of 30 participant.

In Low knowledge criteria (40-59%), 16(53.3%)Nursing officer scored in Low knowledge criteria in pre-test in experimental group out of 30 participant And 10(33.3%) nursing officer scored in average knowledge criteria in pre-test in control group out of 30 participant.

In Very low knowledge criteria (<40%), 3(10%)Nursing officer scored in very Low knowledge criteria in pre-test in experimental group out of 30 participant And 13(43.3%) nursing officer scored in very low knowledge criteria in pre-test in control group out of 30 participant

Table 3 : Comparison of pretest knowledge score between experimental and control group using descriptive statistics.

					N=60	**30+30**		
	Descriptive Statistics	**Mean Score**	**S.D.**	**Median Score**	**Maximum**	**Minimum**	**Range**	**Mean %**
Pre test	**Experimental**	13.17	3.291	13	20	6	14	52.67
	Control	11.63	5.027	11	21	4	17	46.53

Table 3 draw comparison between pretest knowledge among experimental and control group. Mean score knowledge for experimental and control group was 5.90(SD=3.291) and 11.63 (SD=5.027) respectively.

Section C : Findings related to the post-interventional knowledge regarding IABP in experimental group and control group.

Table 4 : Frequency & Percentage distribution of Posttest knowledge scores in experimental group v/s control group.

(Post-test) N=60		
Knowledge score	**Experimental group**	**Control group**
High knowledge (>80%)	27(90%)	1(3.3%)
Average knowledge(60-79%)	2(6.7%)	8(26.7%)
Low knowledge(40-59%)	1(3.3%)	12(40%)
Very low knowledge (<40%)	0(0%)	9(30%)

Table 4 describe the level of knowledge related to IABP in experimental and control group in post test . Majority of the participant, 27(90%) from experimental group scored high knowledge after intervention and Majority of the participant from control group scored in low knowledge 12(40%). In high knowledge criteria (>80%), 27(90%)Nursing officer scored in high knowledge criteria in post-test in experimental group out of 30 participant after intervention And only 1(3.3%) nursing officer scored in high knowledge criteria in post-test in control group out of 30 participant with no intervention.

In Average knowledge criteria (60-79%), 2(6.7%)Nursing officer scored in average knowledge criteria in post-test in experimental group out of 30 participant after intervention And 8(26.7%) nursing officer scored in average knowledge criteria in post-test in control group out of 30 participant with no intervention.

In Low knowledge criteria (40-59%), 1(3.3%)Nursing officer scored in Low knowledge criteria in post-test in experimental group out of 30 participant after intervention And 12(40%) nursing officer scored in Low knowledge criteria in post-test in control group out of 30 participant with no intervention.

In Very low knowledge criteria (<40%), 0(0%) Nursing officer scored in very Low knowledge criteria in post-test in experimental group out of 30 participant after intervention And 9(30%) nursing officer scored in very low knowledge criteria in post-test in control group out of 30 participant with no intervention.

Table 5 Comparison of posttest knowledge score between experimental and control group using descriptive statistics.

					N=60			
.	**Descriptive Statistics**	**Mean Score**	**S.D.**	**Median Score**	**Maximum**	**Minimum**	**Range**	**Mean %**
POST TEST	**Experimental**	21.83	2.588	22	24	10	14	87.33
	Control	12.30	4.203	12	21	6	15	49.20

Table 5 draw comparison between post-test knowledge among experimental and control group. Mean score knowledge for experimental and control group was 21.83(SD=2.588) and 12.30 (SD=4.203) respectively.

Section D : Comparison of knowledge score between experimental and control group after implementation of the intervention

Table 6 : Comparison of knowledge score between experimental and control group after implementation of the intervention using unpaired t-test.

N=60		**Knowledge score**				**Unpaired T Test**		
		Experimental group		**Control group**				
Test	**N**	**Mean**	**SD**	**Mean**	**SD**	**df**	**T**	**Result**
Pretest	30	13.17	3.29	11.63	5.02	58	1.39	P value=0.168 Non Significant
Posttest	30	21.83	2.58	12.30	4.20	58	10.57	P value=<0.001 Significant

Interpretation

In table 6, mean knowledge score of experimental group is 13.17(SD=3.2) in pre-test and 11.63 (SD=5.02) in pretest in control group. Statistically, There is no significant difference between

pretest score of experimental group and pre test score of control group. (p=0.168) and mean knowledge score of experimental group is 21.83(SD=2.58) in post-test and 12.30(SD=4.20) in post-test in control group. Statistically, There is significant difference between post-test score of experimental group and post-test score of control group. (p=>0.001)

Table 7 : Comparison of knowledge score within experimental and control group after implementation of the intervention using paired t-test.

N=60		**Knowledge score**				**Paired T Test**		
		Pretest		**Posttest**				
Group	**N**	**Mean**	**SD**	**Mean**	**SD**	**df**	**T**	**Result**
Experimental Group	30	13.17	3.29	21.83	2.58	29	11.42	P value=<0.001 Significant
Control Group	30	11.63	5.02	12.30	4.20	29	2.00	P value=0.055 Non Significant

Table 7 descibes, mean knowledge score of experimental group is 13.17(SD=3.291) in pre-test before intervention and 21.83(SD=2.588) in post-test. Statistically, There is significant difference between pretest test score and post-test score . (p=<0.001)

mean knowledge score of control group is 11.6333 (SD=5.027) in pre-test and 12.30 (SD=4.203) in post-test. Statistically, There is no significant difference between pretest score and post test score . (p=0.055)

Interpretation

H1- There is significant difference between post-test knowledge score to the pre-test knowledge score following implementation of the Nurse led intervention.

From table no. 7, it is concluded that there was significant difference between post-test knowledge score to the pre-test knowledge score following implementation of the Nurse led intervention.

Therefore, research hypothesis is accepted. **Section E : Finding related to the association between level of pretest knowledge regarding care of patient with intra aortic balloon pump among nursing officer and selected demographic variable.**

Table 8 : Association between pretest knowledge score with selected socio-demographic variable.

Demographic variables		Pretest Knowledge score of experimental and control (Chi statistics)														
		High knowledge		Average knowledge		Low knowledge		Ver low knowledge		Chi Tet		P Value		df		Result
		E	C	E	C	E	C	E	C	E	C	E	C	E	C	
Age	Upto 25 years	0	0	0	2	4	6	0	6	5.06	3.32	0.28	0.71	4	6	NS
	26-30 years	0	2	7	3	7	5	1	7							
	31-35 years	0	0	4	0	5	1	2	0							
Gender	Male	0	2	10	5	9	7	1	7	5.19	2.93	0.07	0.19	2	3	NS
	Female	0	0	1	0	7	5	2	6							
Education Status	GNM	0	0	1	1	5	2	0	4	6.54	7.90	0.36	0.50	6	9	NS
	B.Sc nursing	0	1	7	2	10	8	2	8							
	Post Basic B.Sc Nursing	0	1	1	2	1	1	0	0							
	M.Sc Nursing	0	0	2	0	0	1	1	1							

Table continue.....

Year of Work Experience	Upto 1 year	0	0	4	2	6	3	0	4	3.36	1.29	0.49	0.59	4	6	NS
	2-5 years	0	1	5	3	6	8	1	8							
	6-10 years	0	1	2	0	4	1	2	1							
Any Previous Experience	Yes	0	2	1	2	3	3	2	3	4.91	3.87	0.08	0.19	2	3	NS
	No	0	0	10	3	13	9	1	10							
Any Previous Knowledge	Yes	0	2	3	2	7	3	3	5	5.08	3.03	0.07	0.33	2	3	NS
	No	0	0	8	3	9	9	0	8							

Table 8 Shows association between pre-test knowledge of nursing officers of control group and socio demographic variables including Age, gender, education status, year of work experience, any previous experinece of IABP, any pervious knowledge of IABP using chi square test.

Interpretation

From previous table, It is concluded that there was no significant association between pretest knowledge score and selected sociodemographic variables.

SUMMARY

This chapter addressed how the data gathered for the study was presented, analysed, and interpreted. Four components comprised the data analysis results, Section A represented Findings related to socio-demographic variables of nursing officer. Section B represented Findings related to the pre-interventional knowledge regarding IABP in experimental group and control group. Section C represented Findings related to the post-interventional knowledge regarding IABP in experimental group and control group. Section D represented Comparison of knowledge score between experimental and control group after implementation of the intervention. Section E represented Finding related to the association between pretest knowledge score regarding care of patient with intra aortic balloon pump among nursing officer and selected socio-demographic variable.

CHAPTER 5

DISCUSSION

CHAPTER 5

DISCUSSION

This chapter includes major study findings, conclusion and discussion with reference studies, recommendation for further research on the effectiveness of nurse led intervention on knowledge of nursing officer regarding care of patient with Intra- aortic balloon pump. Implication of study finding on various fields of nursing.

MAJOR FINDINGS OF THE STUDY

Major findings of the present study are as follows :-

Findings related to sociodemographic variables of nursing officer.

- Majority of the Nursing officers were between the age group of (26-30 year) (50%) in experimental group and (56.7%) in control Group.
- Most of the Nursing officer were male (66.7%) and female (33.3%) Both in experimental and control group.
- More than half of the Nursing officer had B.Sc Nursing Degree (63.3%) In experimental group and (56.7%) in control group
- Majority of the Nursing officer were having work experience of 2-5 years in Hospital (40%) in experimental group and (60.0%) in control group.
- More than half of the Nursing officer had no previous experience of working with the IABP patient in hospital (56.7%) in experimental group and (60%) in control Group.
- Majority of the Nursing officer had no previous knowledge of IABP in pretest (56.7%) in experimental group and (60%) in control group.

Findings related to the Comparison of knowledge score before and after implementation of the intervention.

In present study, mean data score of experimental group is 13.17(SD=3.291) and 11.6333 (SD=5.027) in control group respectively, in pre-test before intervention but after intervention to experimental group only, mean data score of experimental group is 21.83(SD=2.588) and 12.30(SD=4.203) in control group resectively, in post-test. It was concluded that there was significant difference between post-test knowledge score to the pre-test knowledge score following implementation of the Nurse led intervention (Sructured teaching programme).

A study conducted by Neelavathi D. et al. revealed that, when it came to the care of patients with IABP in the pretest, nurses' levels of practice were average (66.67%), with 23.33% having poor practice. After receiving instruction on how to care for patients with IABP, 21.67% of the nurses had good practice, whereas the majority of nurses (78.33%) had mediocre level practice. Thus, with a t value of 20.06, significant at p 0.001, it was determined that there was a significant difference between the pretest practice scores (M = 17, SD = 3.99) and posttest practice scores (M = 28.36, SD = 3.8) regarding IABP treatment among nurses.

A study conducted by Alymahgoub, Asmaa and Ismael et al. , Before training, the majority of nurses (35.0%, 25.0%, 27.5%, 37.5%, and 27.5%, respectively) did not follow the proper procedures. Following a teaching intervention, the majority of nurses (77.5%, 80%, 77.5%, 67.5%, and 55%) properly demonstrate. The nurses' responses (20%) and (52.5%) about IABP indications were accurate both before and after the teaching intervention. Additionally, before and after the teaching intervention, 20% and 52.5%) of the nurses' responses about IABP problems and symptoms of weaning failure were accurate, but their responses (52.5% and 75%) were accurate after the teaching intervention. It was noted that there were statistically significant differences between the nurses' knowledge categories indicating good knowledge after teaching intervention,

compared with poor knowledge prior to teaching programme, with a p value of 0.002 between the before and after teaching intervention.

Shweta rasaria and suchita sawant el al. revealed that staff nurses' posttest knowledge and practice level had significantly increased compared to their pretest score. For knowledge, the computed t-value came out to be 31.76, above the table t-value of 2.01 at the 0.05 level of significance. Similarly, for practice, the calculated t-value came out to be 27.77, surpassing the table t-value of 2.01 at the 0.05 level of significance. This demonstrates that, at 0.05 significant levels, there is a statistically significant difference between the sample's pre- and post-test mean knowledge. These findings bolster the notion that educational interventions are beneficial in raising staff nurses' IABP knowledge scores.

yasmeen ghafoor, hajra sarwar et al. Reported Regarding the structure of the heart, the nurse's reported responses were accurate before and after the educational intervention (37.5% and 45%, respectively). There were statistically significant changes in the heart's function, the location and function of the coronary arteries, and the cardiac cycle before and after the educational intervention (p values of 0.002, 0.001, and 0.025, respectively). The knowledge of nurses on indications and complications, both before and after training intervention, is distributed as a percentage. Regarding IABP indications, the nurses' responses (20%) and (52.5%) were accurate both before and after the education intervention. Additionally, nurses gave accurate answers (20% and 52.5%) about IABP problems and indicators of weaning failure before and after the teaching intervention, while 52.5% and 75% of their replies were accurate after the teaching intervention. Before and after the educational intervention, there were statistically significant differences (p value = 0.237). El-Rahman Abd El Salah Mohamed et al. demonstrated a significantly significant difference ($p<0.001^{**}$) between the pre- and two-month post-implementation of the guidelines. The average overall knowledge score of the nurses under study throughout different study phases immediately

post-guidelines was 27.95±5.07 to be 24.45±3.43 after two months of implementation but still significantly higher than pre-guidelines implementation, which was 16.65±1.84. After two months of implementation, the total mean score of practice skills for caring for patients with an intra-aortic balloon pump was ,42.89±35.5 which was still significantly higher than the pre-guidelines implementation of 25.66±35.. Instantly following the guidelines, the score was 45.96 ± 35.41 .

Rajni Thapa and Gita Neupane et al. Result reported Staff nurses' understanding of the IABP increased by 48.96 percent at ($p<0.05$) according to an evaluation of the effectiveness of a structured education intervention.

LIMITATION

This study includes only 60 nursing officer from single hospital. Thus large-scale studies that are capable of evaluating more will be better.

IMPLICATIONS

NURSING PRACTICE

- Teaching with PowerPoint is a useful way to provide nursing officers with IABP Knowledge training.
- Among other nurses, a nurse's role as a team leader is crucial in planning, collaborating, and coordinating an IABP teaching programme.
- Increased understanding of IABP, contributes to preventing IABP problems, improving patient outcomes and lowering unfavourable consequences like high medical expenses, mortality risk, and prolonged hospital stays**.**

NURSING ADMINISTRATION

With expanding bodies, the nurse administrator needs to take the necessary actions. Developing guidelines and procedures, as well as organising and arranging training events to raise awareness among nurses and encourage learning about IABP care. Acknowledgment and accomplishments of

this nature will motivate and raise awareness among nurses on patient care for individuals with IABP.

NURSING EDUCATION

The necessity of educating the public about IABP care should be taught to the students by the nurse educators. The nurse educator should motivate nurses

working in various environments to enrol in training courses in order to enhance the practice of providing IABP care. In order to educate others on the care of patients with IABP, nurse educators can be quite helpful.

NURSING RESEARCH

This study could provide future researchers with useful reference material.

Power Point-based presentation teaching intervention was employed in this study. Future research can employ other techniques like hands-on training and video-assisted techniques.

RECOMMENDATION

1. Similar study can be conducted in the different setting such as Multicentric hospitals.

2. This study only assessed change in knowledge level before and after Intervention. Change in Skills and attitude were not investigated in this study. These factors should be investigated in future studies.

3. This study used power point based presentation teaching Intervention. other methods like Video assisted teaching and hands on training can be conducted in Future studies.

CONCLUSION

In Conclusion, the result of this study provide direct evidence of Effectiveness of teaching intervention on knowledge of nursing Officer regarding IABP. Result support the possibility that Knowledge Can be improved through customized teaching training. The improvement in knowledge helps to prevent the complications of IABP and lead to better patient outcomes.

SUMMARY

The main study findings are presented in this chapter and were addressed in light of the various reviewed literatures. study's limitations, conclusions, and additional recommendations were also included.

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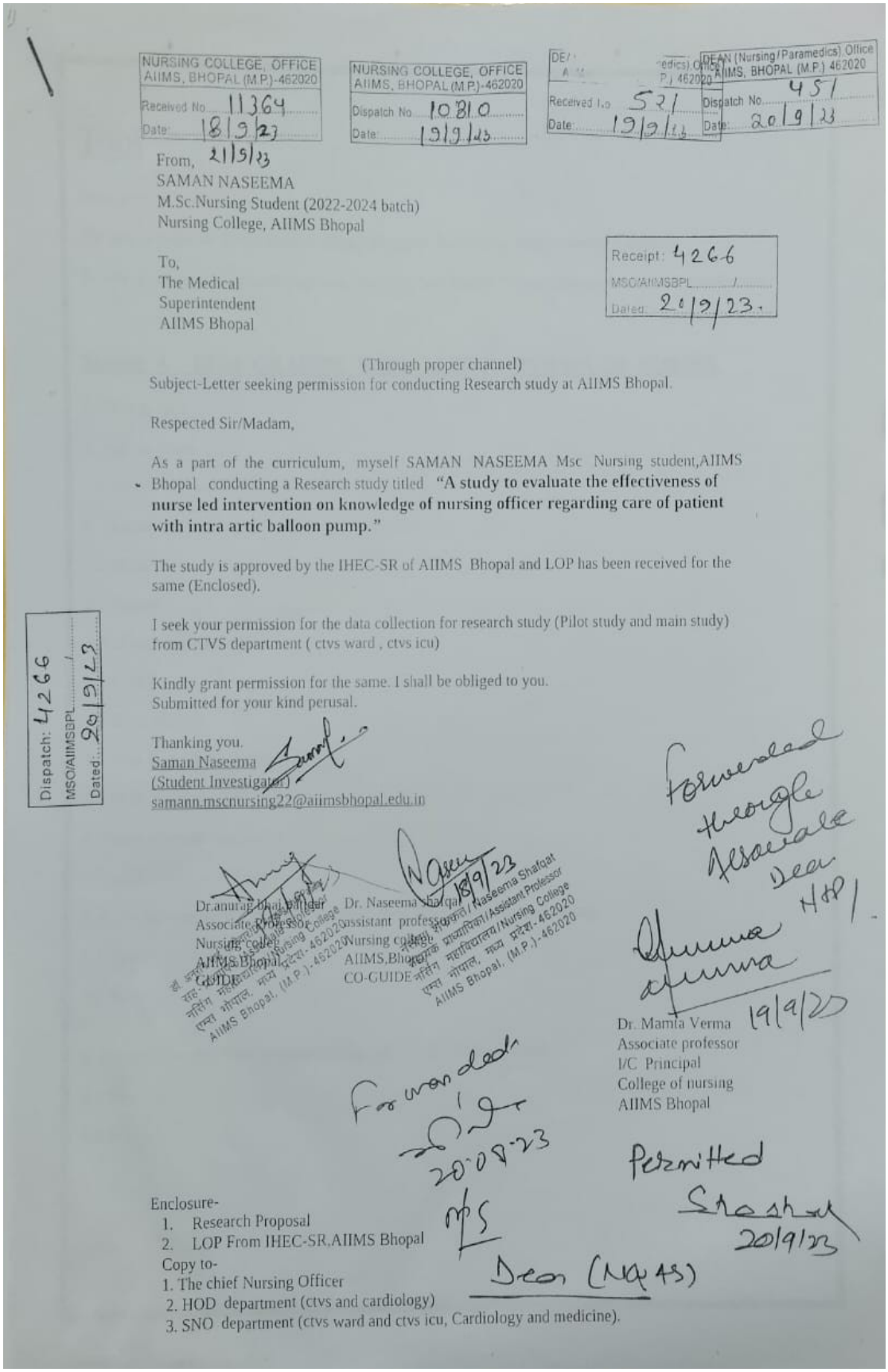
ANNEXURE

ANNEXURE 1

LETTER SEEKING PERMISSION TO CONDUCT STUDY



NURSING COLLEGE, OFFICE
AIIMS, BHOPAL (M.P)-462020
Received No. 11364
Date: 18/9/23

NURSING COLLEGE, OFFICE
AIIMS, BHOPAL (M.P)-462020
Dispatch No. 10810
Date: 19/9/23

DEAN (Nursing/Paramedics) Office
AIIMS, BHOPAL (M.P.) 462020
Received No. 521
Date: 19/9/23

DEAN (Nursing/Paramedics) Office
AIIMS, BHOPAL (M.P.) 462020
Dispatch No. 451
Date: 20/9/23

From, 21/9/23
SAMAN NASEEMA
M.Sc.Nursing Student (2022-2024 batch)
Nursing College, AIIMS Bhopal

Receipt: 4266
MSO/AIIMSBPL
Dated: 20/9/23.

To,
The Medical
Superintendent
AIIMS Bhopal

(Through proper channel)

Subject-Letter seeking permission for conducting Research study at AIIMS Bhopal.

Respected Sir/Madam,

As a part of the curriculum, myself SAMAN NASEEMA Msc Nursing student,AIIMS Bhopal conducting a Research study titled **"A study to evaluate the effectiveness of nurse led intervention on knowledge of nursing officer regarding care of patient with intra artic balloon pump."**

The study is approved by the IHEC-SR of AIIMS Bhopal and LOP has been received for the same (Enclosed).

Dispatch: 4266
MSO/AIIMSBPL
Dated: 20/9/23

I seek your permission for the data collection for research study (Pilot study and main study) from CTVS department (ctvs ward , ctvs icu)

Kindly grant permission for the same. I shall be obliged to you.
Submitted for your kind perusal.

Thanking you.
Saman Naseema
(Student Investigator)
samann.mscnursing22@aiimsbhopal.edu.in

Forwarded through Associate Dean HOP/

Dr.anurag Dhaliwal
Associate Professor
Nursing college
AIIMS,Bhopal
GUIDE

18/9/23
Dr. Naseema Shafqat
assistant professor
Nursing college
AIIMS,Bhopal
CO-GUIDE

Dr. Mamta Verma 19/9/23
Associate professor
I/C Principal
College of nursing
AIIMS Bhopal

Forwarded
20.09.23

Permitted
20/9/23

Dean (NQAS)

Enclosure-
1. Research Proposal
2. LOP From IHEC-SR,AIIMS Bhopal

Copy to-
1. The chief Nursing Officer
2. HOD department (ctvs and cardiology)
3. SNO department (ctvs ward and ctvs icu, Cardiology and medicine).

ANNEXURE 2

DATA COLLECTION TOOL

Code no :

Date and Time :

Tool

Description of tools

The tool is prepared on the basis of related literature. The tool is divided into two sections. Section A consists of Socio-demographic Performa and Section B consists of self-structured questionnaire.

SECTION A : DEMOGRAPHIC VARIABLES PROFORMA OF NURSES

1. Age in years (AGE)

---

2. Gender

2.1 Male

2.2 Female

3. Educational status

3.1 GNM

3.2 B.Sc nursing

3.3 Post Basic B.Sc Nursing

3.4 M.Sc Nursing

4. Years of work experience

---

5. Previous experience of care of patient with Intra Aortic Balloon Pump

5.1 Yes

5.2 No

6. Any previous year of knowledge of Intra Aortic Balloon Pump

6.1 Yes

6.2 No

SECTION B: STRUCTURED QUESTIONNAIRE

STRUCTURED QUESTIONNAIRE TO ASSESS KNOWLEDGE REGARDING CARE OF PATIENT WITH IABP

Purpose

The structured knowledge questionnaire is to collect information of nursing officer regarding the knowledge and practice on care of IABP patients.

Instructions:

This structured interview schedule consists of multiple choice questions. Read the questions and answer

given. Place a (√) tick mark against the right answer for each question. Please be honest in your response. The information collected will be kept confidential and anonymity will be maintained.

1. What is intra aortic balloon pump?

a. It is a Mechanical pump, This device helps the lower left chamber (left ventricle) of your heart pump blood out of the ventricle to your aorta and the rest of your body.

b. It is a mechanical device that increases myocardial oxygen perfusion and indirectly increases cardiac output through afterload reduction

c. This device helps to improves the blood flow in your heart by replacing an aortic valve that doesn’t open fully.

d. It is a battery-powered device that prevents the heart from beating too slowly.

2. The indications for Intra Aortic Balloon Pump therapy includes ?

a. Cardiogenic shock following acute myocarditis

b. Compartment syndrome

c. Aortic dissection

d. Acute aortic regurgitation from endocarditis3. The primary goal of Intra Aortic Balloon Pump treatment are :-

a. To decrease myocardial oxygen supply

b. To increase myocardial oxygen supply

c. To increase myocardial oxygen demand

d. None of the above

4. Select one contraindication of IABP ?

a. Unstable acute myocardial infarction patient

b. severe Aortic valve regurgitation

c. Refractory Congestive Heart Failure

d. High risk Coronary Artery Bypass Graft patient

5. What is the correct placement of balloon in Intra Aortic Balloon Pump ?

a. The end of the balloon should be just proximal (1.5) cm to the takeoff of left subclavian artery

b. The end of the balloon should be just distal (1-2cm) to the takeoff of the left subclavian artery

c. The end of the balloon should be just proximal to the end of the right subclavian artery

d. The end of the baloon should be just distal (2-3cm) to the end of the left subclavian artery

6. Which artery is most commonly punctured for insertion of Intra Aortic Balloon Pump catheter?

a. Axillary artery

b. Femoral artery

c. Subclavian artery

d. Radial artery

7. All of the following are expected following insertion of Intra Aortic Balloon pump Except ?

a. Increase cardiac output

b. Increase sytemic vascular resistence

c. Increase urine output

d. Increase coronary blood supply8. When Low Helium alarm triggers, it indicates ,there are approximately how many hours remaining in the tank ?

a. 24 hours

b. 48 hours

c. 12 hours

d. 16 hours

9. A Patient on Intra Aortic Balloon pump should be regularly monitored for ?

a. Distal lower limb pulses

b. Distal lower limb temperature

c. Signs of lower limb ischemia

d. All of the above

10. As a nursing officer you are looking after the patient on intra aortic balloon pump, there is a chance of distal balloon catheter migration and obstruction of _____ artery.

a. superior mesentric artery

b. inferior phrenic artery

c. celiac artery

d. renal artery

11. What should be the leg position of the patient underwent arterial catherterization in Intra Aortic Balloon Pump?

a. Leg in dorsal recumbant position

b. Knee flexed at 30°

c. Leg completely straight

d. Leg elevated at 15°

12. Following insertion of Intra Aortic Balloon Pump, nursing care involves?

a. Cardiovascular/ haemodynamic , fluid balance assessment

b. Positioning and pressure area care

c. Observation of the balloon catheter and line, the catheter insertion site and limb perfusion

d. All of the above

13. What should be the minimum urine output per hour in Intra Aortic Balloon Pump patient ?

a. 1 ml/Kg/Hrb. 0.4 ml/Kg/Hr

c. 0.5 ml/kg/Hr

d. 2-3 ml/Kg/Hr

14. What should be the level of transducer with phlebostatic axis ?

a. 3rd intercostal space mid axilla

b. 2nd intercostal space anterior axilla

c. 5th intercostal space mid axilla

d. 4th intercostal space mid axilla

15. At what level Intra Aortic Ballloon Pump patient should be positioned when arterial Catherter is present in lower limb ?

a. No higher than 60°

b. No higher than 30°

c. At 90° angle

d. At 45° angle

16. In an invasive haemodynamic monitoring system the pressure bag should be inflated and maintained at what pressure thus ensuring optimal flush system, which is required for line patency ?

a. 50 mmHg

b. 100 mmHg

c. 200mmHg

d. 300 mmHg

17. What refers to the augmented pressure, used in Intra Aortic Balloon Pump ?

a. Pressure that the balloon exerts when inflated to push the blood into the renal and iliac artery

b. Pressure that the balloon exerts when inflated to push the blood into the coronary and carotid artery

c. Pressure that the balloon exerts when inflated to push the blood into coronary And pulmonary artery

d. None of the above18. Which bag should be used for flushing the arterial lines and tubing in Intra Aortic Balloon Pump?

a. 0.45% Normal saline bag

b. 5% Dextrose normal saline bag

c. 0.9 % Normal Saline bag

d. Heparin bag

.

19. At what time Intra Aortic Balloon Pump balloon shall get completely deflated ?

a. Starting of P wave

b. End of P wave

c. Peak of QRS complex

d. Rising of T wave

20. The balloon catheter comes in three sizes 34cc, 40cc, 50cc and is selected according to the height of the patient , if person is 5’0’’-5’4’’ inches, (152cm-162cm) tall, which catheter size will be selected in the patient ?

a. 34 cc

b. 40 cc

c. 50 cc

d. None of the above

21. What are the risks for intra-aortic balloon pump therapy?

a. Damage from the lack of blood flow to a limb (ischemia)

b. Injury to an artery

c. Rupture of the balloon

d. All of the above

22. Which one the following waveform indicates for helium leak?

a. Square or Rounded Plateau pressure

b. Dichrotic waveform

c. Absence of balloon waveform.

d. Absent trace in waveforms23. The pump is the peak trigger mode, what part of the EKG complex is being recognized as the

trigger event ?

a. The r wave

b. The pacer spike

c. The arterial pressure wave form

d. The t wave

24. If the patient on intra aortic ballooon pump suddenly develops Atrial Fibrillation, which trigger is the

Desired trigger ?

a. Pressure trigger

b. Pacer trigger

c. V/AV trigger

d. ECG trigger

25. If the patient on Intra Aortic Balloon Pump develops, sudden cardiac arrest what action should be

implemented ?

a. Switch the pump to a pressure trigger mode and start CPR

b. Switch the pump to a ECG trigger mode and start CPR

c. Switch the pump to a V/AV trigger mode and start CPR

d. Switch off the pump immediately and start CPR

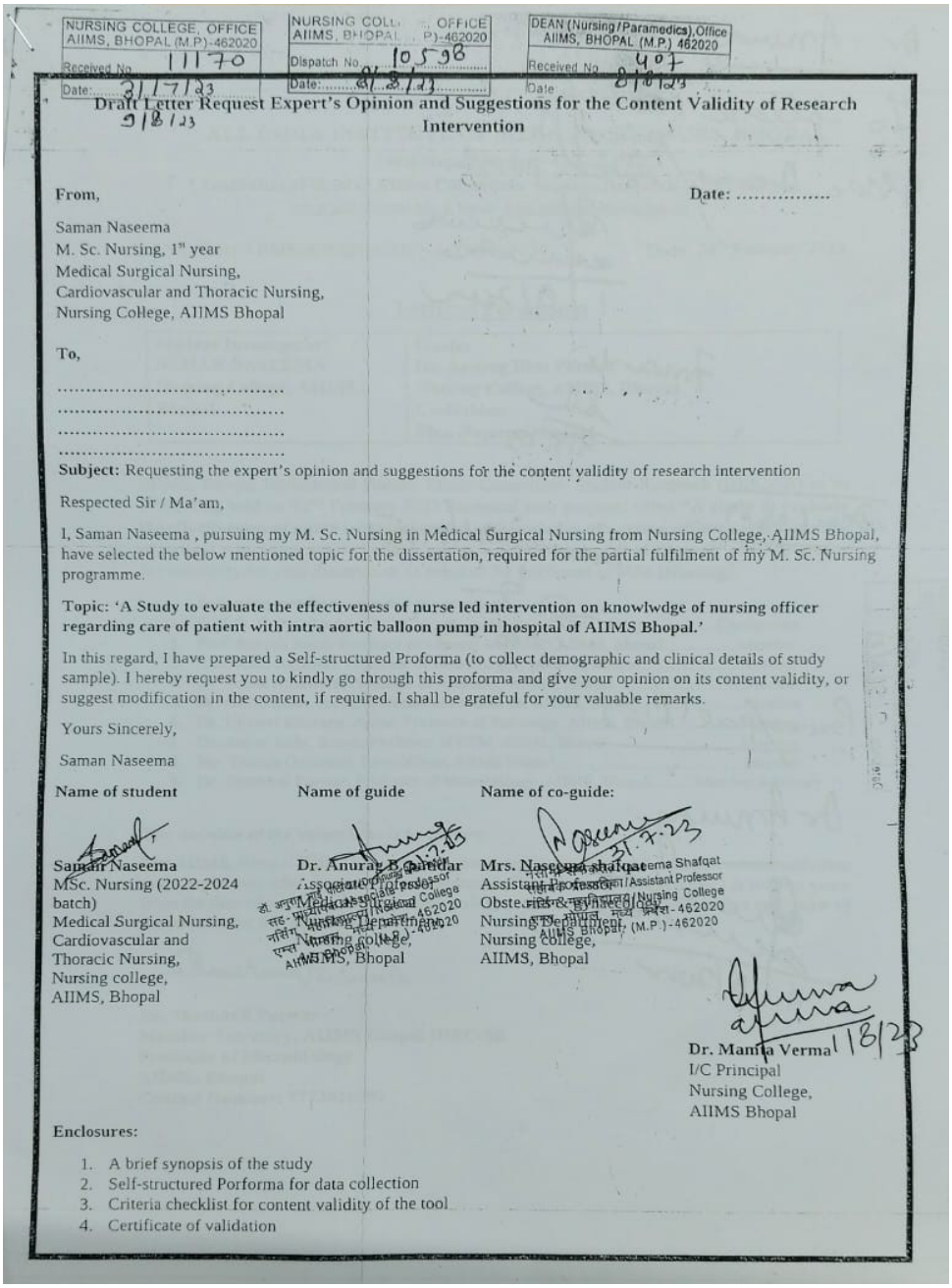
ANNEXURE 3

LIST OF EXPERTS

S. No	NAME OF THE EXPERTS	ISTITUTION	DESIGNATION
1.	Mr. Maneesh Sharma	College of Nursing,AIIMS Rishikesh	Assistant professor
2.	Dr Madhavi Verma	Institute of Liver and Billiary Sciences, Delhi	Associate Professor
3.	Mrs Bincy S. kuriakose	Kasturba College of Nursing, Bhopal	Assistant professor
4.	Mr N. Sabri Vel	College of Nursing, AIIMS Jodhpur	Tutor/ Clinical Instructor
5.	Mrs Khina Sharma	College of Nursing AIIMS, Jodhpur	Tutor/ Clinical Instructor
6.	Mrs Ranjana Verma	College of Nursing AIIMS, Bhopal	Tutor/ Clinical Instructor
7.	Dr Jisa George	College of Nursing AIIMS, Bhopal	Assistant professor
8.	Dr Yogesh Kumar Niwariya	AIIMS, Bhopal	Additional professor/ HOD CTVS department
9.	Dr Kishan Magatapalli	AIIMS, Bhopal	Associate professor CTVS department
10.	Dr Kisley Shrivastawa	AIIMS, Bhopal	Associate professor Cardiology deraptment

ANNEXURE 4

LETTER REQUESTING EXPERTS' OPINION AND SUGGESTIONS FOR THE CONTENT VALIDITY OF TOOL AND INTERVENTION



NURSING COLLEGE, OFFICE AIIMS, BHOPAL (M.P)-462020 Received No. 11170 Date: 31/7/23

NURSING COLL... OFFICE AIIMS, BHOPAL ...P)-462020 Dispatch No. 10598 Date: 01.8.23

DEAN (Nursing/Paramedics) Office AIIMS, BHOPAL (M.P.) 462020 Received No. 407 Date 8/8/23

9/8/23

Draft Letter Request Expert's Opinion and Suggestions for the Content Validity of Research Intervention

From,

Date: .....

Saman Naseema
M. Sc. Nursing, 1st year
Medical Surgical Nursing,
Cardiovascular and Thoracic Nursing,
Nursing College, AIIMS Bhopal

To,

.....
.....
.....
.....

Subject: Requesting the expert's opinion and suggestions for the content validity of research intervention

Respected Sir / Ma'am,

I, Saman Naseema , pursuing my M. Sc. Nursing in Medical Surgical Nursing from Nursing College, AIIMS Bhopal, have selected the below mentioned topic for the dissertation, required for the partial fulfilment of my M. Sc. Nursing programme.

Topic: 'A Study to evaluate the effectiveness of nurse led intervention on knowlwdge of nursing officer regarding care of patient with intra aortic balloon pump in hospital of AIIMS Bhopal.'

In this regard, I have prepared a Self-structured Proforma (to collect demographic and clinical details of study sample). I hereby request you to kindly go through this proforma and give your opinion on its content validity, or suggest modification in the content, if required. I shall be grateful for your valuable remarks.

Yours Sincerely,

Saman Naseema

Name of student

Saman Naseema
MSc. Nursing (2022-2024 batch)
Medical Surgical Nursing,
Cardiovascular and Thoracic Nursing,
Nursing college,
AIIMS, Bhopal

Name of guide

Dr. Anurag Baghel
Associate Professor
Medical Surgical Nursing
Nursing Department,
Nursing college,
AIIMS, Bhopal

Name of co-guide:

31.7.23

Mrs. Nasreena Shafqat
Assistant Professor
Obste...
Nursing Department,
Nursing college,
AIIMS, Bhopal

Dr. Manita Verma 1/8/23
I/C Principal
Nursing College,
AIIMS Bhopal

Enclosures:

1. A brief synopsis of the study
2. Self-structured Performa for data collection
3. Criteria checklist for content validity of the tool
4. Certificate of validation

ANNEXURE 5

Criteria Checklist for the Validation of the Tool

The study plans to utilize a self-structured tool consisting of questionnaire to collect socio-demographic data and clinical data of the research study participants.

Self-Structured Proforma consist of two parts:

Part A: It consist of questions to collect the Socio-demographic data of the participants.

This consist of 6 questions

Part B: It consist of Self structured questionnaire to collect the knowledge of the participants.

This consist of 25 multiple choice questions with 4 options

Kindly provide your expertise judgment on the degree of relevancy of each item in the questionnaire.

If there are any suggestions or modifications, please mention it in the 'Remarks' column**.**

Item no.	**Highly relevant 4**	**Quite relevant 3**	**Somewhat relevant 2**	**Not relevant 1**	**Remarks**
PART A					
1. Age in years					
2. Gender					
a. male					
b. Female					

3.Educational status					
a.GNM					
b. Bsc Nursing					
c.Post Basic Bsc Nursing					
d.Msc Nursing					
4.Years of work experience					
5.Previous experience of care of patient with IABP					
a.Yes					
b.No					
6.Previous knowledge of IABP					
a.Yes					
b.No					

Item no.	Highly relevant 4	Quite relevant 3	Somewhat relevant 2	Not relevant 1	Remarks
PART B					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

ANNEXURE 6

Certificate of Tool Validation

This is to certify that the 'Self-Structured Porforma' constructed by Saman Naseema, M. Sc. Nursing (2022 – 2024 batch) student at Nursing College, AIIMS Bhopal, can be utilized in the study titled 'A Study to evaluate the effectiveness of nurse led intervention on knowlwdge of nursing officer regarding care of patient with intra aortic balloon pump in hospital of AIIMS Bhopal.' The tool has been validated by me and is found to be valid/ not valid.

Overall remark:

Signature:

Name of the expert:

Designation:

Name of the institution:

Official seal:

Date:

Place:

ANNEXURE 7

METHOD OF RANDOMIZATION

THROUGH COIN FLIPPING

Participant code no.	Coin flipping
1.	HEADS
2.	HEADS
3.	TAILS
4.	HEADS
5.	HEADS
6.	TAILS
7.	TAILS
8.	TAILS
9.	TAILS
10.	TAILS
11.	TAILS
12.	HEADS
13.	HEADS
14.	TAILS
15.	HEADS
16.	TAILS
17.	TAILS
18.	TAILS
19.	HEADS
20.	HEADS
21.	HEADS
22.	TAILS
23.	HEADS
24.	HEADS
25.	TAILS
26.	HEADS
27.	HEADS
28.	HEADS
29.	TAILS
30.	TAILS
31.	HEADS
32.	HEADS
33.	HEADS
34.	TAILS
35.	HEADS
36.	TAILS
37.	HEADS
38.	TAILS
39.	TAILS
40.	HEADS

41.	HEADS
42.	TAILS
43.	HEADS
44.	HEADS
45.	HEADS
46.	TAILS
47.	HEADS
48.	TAILS
49.	TAILS
50.	TAILS
51.	HEADS
52.	HEADS
53.	TAILS
54.	TAILS
55.	TAILS
56.	HEADS
57.	TAILS
58.	HEADS
59.	TAILS
60.	TAILS

- **Participant were randomly selected from CTVS ward, CTVS ICU, Cardiology ward and MICU**
- **Participant whose head came through coin flipping they were put in a experimental group**
- **Participant whose tails came through coin flipping they were put in a control group**

ANNUXURE 8

PARTICIPANT INFORMATION SHEET

PARTICIPANT INFORMATION SHEET

Title of the study:

"A study to evaluate the effectiveness of nurse led intervention on knowledge of nursing officer regarding care of patient with intra-aortic balloon pump in hospital of AIIMS, Bhopal**.**"

Dear sir/Madam,

Please read the following.

You are requested to participate in a study conducted by Ms. Saman naseema M.Sc. Nursing (2022-2024 batch), under the guidance of Dr Anurag bhai patidar, Associate Professor, Dept. of CTVS Nursing, Nursing college, AIIMS Bhopal and Dr. Naseema Shafqat ,Dept of Obstetrics and Gynaecology Nursing, Nursing college, AIIMS bhopal

Introduction and Purpose of the study:

Intra-aortic balloon pump, remains the most widely used circulatory assist device in critically ill patients with cardiac disease in the hospital. Thus nurses need to know about the IABP and care of patients on IABP. The improvement in knowledge also helps to prevent the complications of IABP and lead to better patient outcomes. Therefore this study is conducted to assess the effectiveness of teaching programme regarding care of patient with Intra-Aortic Balloon Pump (IABP) upon the level of knowledge among nursing officer of AIIMS, bhopal.

Eligibility to participate in study

Nursing officer working in CTVS ward, CTVS ICU, Cardiology ward and MICU, who are willing to participate

Procedure in the study:

If you agree to participate in the study, after taking informed consent, some questions will be asked to you regarding IABP , which will not be disclosed to anyone.

Potential risks involved: Information provided by you will be strictly confidential and would not be used for any other purpose. You do not give up any of your legal rights on agreeing to participate in the study .

Potential benefits involved in the study: This study may help nursing officer to increase their knowledge regarding IABP. There is no financial benefit involved in the study.

Expected number of participants

60 participants will be included the study,You will be one among them.

Confidentiality:

Efforts may be made to keep your study-related information confidential. Instead of your name, this study uses a code so that your name will not be revealed.

Incentive:

Needed materials for the study will be arranged by the researcher. No other incentives will be offered for study participation.

Contact and questions:

For any question, concern, or complaint about this study, you may contact, saman naseema on

samann.mscnursing22@aiimsbhopal.edu.in or 7838763300

ANNEXURE 9

प्रतिभागी सू चना पत्र

अध्ययन का शीर्ष क :

"नर्स की प्रभावशीलता का मूल्यांकन करने के लिए एक अध्ययन के संबंध में नर्सिंग अधिकारी के ज्ञान पर हस्तक्षेप किया गया भोपाल के चयनित अस्पताल में इंट्रा एओर्टिक बैलून पंप से मरीज की देखभाल"

प्रिय महोदय/महोदया,

कृपया निम्नलिखित पढ़ें

आपसे अनुरोध है कि मिस समन नसीमा, एम.एससी. द्वारा आयोजित एक अध्ययन में भाग लें। नर्सिंग (2022-2024 बैच), डॉ. अनुराग भाई पाटीदार, एसोसिएट प्रोफेसर, मेडिकल सर्जिकल नर्सिंग विभाग, नर्सिंग कॉलेज, एम्स भोपाल।

अध्ययन का परिचय और उद्देश्य:

इंट्रा-महाधमनी गुब्बारा पंप (आईएबीपी) एक यांत्रिक उपकरण है जो मायोकार्डियल ऑक्सीजन छिड़काव को बढ़ाता है जबकि एक ही समय में कार्डियक आउटपुट बढ़ रहा है। कार्डियक आउटपुट बढ़ने से कोरोनरी धमनी रक्त बढ़ता है प्रवाह और इसलिए मायोकार्डियल ऑक्सीजन वितरण। इसमें एक बेलनाकार पॉलीथीन गुब्बारा होता है जो बैठता है महाधमनी में , बाई ं सबक्लेवियन धमनी और काउं टर से लगभग 2 सेंटीमीटर (0.79 इंच)स्पंदित होता है अर्थात्, यह सिस्टोल में सक्रिय रूप से अपस्फीति करता है, भार के बाद कम करके आगे के रक्त प्रवाह को बढ़ाता है। यह डायस्टोल में सक्रिय रूप से फुलाता है, जिससे कोरोनरी धमनियों में रक्त का प्रवाह बढ़ जाता है। ये क्रियाएँ संयोजित होती है मायोकार्डियल ऑक्सीजन की मांग कम हो जाती है और मायोकार्डियल ऑक्सीजन आपूर्ति बढ़ जाती है यह अनुमान लगाया गया है कि भारत में हर साल लगभग 103,000 लोगों के पास एमआई है। इसलिए आईएबीपी की आवश्यकता है हृदय संबंधी रोगों का उपचार. इस प्रकार नर्सिंग अधिकारी को आईएबीपी और मरीजों की देखभाल के बारे में जानना आवश्यक है आईएबीपी.ज्ञान में सुधार से आईएबीपी की जटिलताओं को रोकने और बेहतर रोगी को

जन्म देने में भी मदद मिलती है परिणाम. इसलिए यह अध्ययन नर्स के नेतृत्व वाले हस्तक्षेप की प्रभावशीलता का आकलन करने के लिए आयोजित किया गया है चयनित में इंट्रा-एओर्टिक बैलून पंप

(आईएबीपी) के साथ रोगी की देखभाल के संबंध में नर्सिंग अधिकारी का ज्ञान भोपाल के अस्पताल.

अध्ययन में भाग लेने की पात्रता

एम्स, भोपाल में कार्यरत एक नर्सिंग अधिकारी होने के नाते आपको अध्ययन में भाग लेने के लिए आमंत्रित किया जाता है

अध्ययन में प्रक्रिया:

यदि आप अध्ययन में भाग लेने के लिए सहमत हैं, तो सूचित सहमति लेने के बाद, जांच के लिए कुछ प्रश्न पूछे जाएं गे इंट्रा एओर्टिक बैलून पंप से मरीज की देखभाल के संबंध में जानकारी और वीडियो आधारित शिक्षा ही होगी आपको प्रदान किया गया, जिसके बाद ज्ञान में परिवर्तन की जांच करने के लिए प्रश्न पूछे जाएं गे इसमें शामिल संभावित जोखिम: आपसे एकत्रित की गई जानकारी पूरी तरह से गोपनीय होगी और इसका उपयोग किसी अन्य उद्देश्य के लिए नहीं किया जाएगा। अध्ययन में भाग लेने के लिए सहमत होने पर आप अपना कोई भी कानूनी अधिकार नहीं छोड़ते हैं

अध्ययन में शामिल संभावित लाभ: यह अध्ययन इंट्रा के रोगी की देखभाल के संबंध में ज्ञान को बेहतर बनाने के लिए उपकरण विकसित करने में मदद करेगा नर्सिंग अधिकारियों में महाधमनी गुब्बारा पंप। अध्ययन में कोई वित्तीय लाभ शामिल नहीं है।

प्रतिभागियों की अपेक्षित संख्या : 60

आप अध्ययन में शामिल प्रतिभागियों में से एक होंगे।

गोपनीयता:

आपकी अध्ययन संबंधी जानकारी को गोपनीय रखने का प्रयास किया जाएगा। तेरे नाम की जगह, यह अध्ययन एक कोड का उपयोग करता है ताकि आपका नाम उजागर न हो सके।

प्रोत्साहन:

अध्ययन के लिए आवश्यक सामग्री की व्यवस्था शोधकर्ता द्वारा की जाएगी। कोई अन्य प्रोत्साहन नहीं होगा अध्ययन में भागीदारी के लिए पेशकश की गई।

संपर्क और प्रश्न:

इस अध्ययन के बारे में किसी भी प्रश्न, चिंता या शिकायत के लिए, आप समन नसीमा से संपर्क कर सकते हैं Samann.mscnursing22@aiimsbhopal.edu.in or 7838763300 प्रतिभागी सू चना सहमति प्रपत्र

ANNEXURE 10

Participant Informed Consent Form (PICF)

इस अध्ययन के तलए प्रतिभागी का पहचान नं बिः .....

Participant Identification no. for this study:.....

अनु सं धान का शीर्ष कः नर्स की प्रभावशीलता का मूल्यांकन करने के लिए एक अध्ययन के संबंध में नर्सिंग अधिकारी के ज्ञान पर हस्तक्षेप किया गया भोपाल के चयनित अस्पताल में इंट्रा एओर्टिक बैलून पंप से मरीज की देखभाल

Title of the study: - A study to evaluate the effectiveness of nurse led intervention on knowledge of nursing officer regarding Care of patient with intra aortic balloon pump in selected hospital of Bhopal

शोधकिाष छात्र का नाम : समन नसीमाफोन नं : 7838763300

Name of the Principal Investigator: Ms. Saman NaseemaMobile No- 7838763300

शोध मागषदशषक का नाम : डॉ. अनुराग भाई पाटीदार, एसोसिएट प्रोफेसर, नर्सिंग कॉलेज, ईम्स, भोपाल

Name of thesis Guide: Dr. Anurag Bhai Patidar, Associate Professor, Nursing College, AIIMS, Bhopal

थीतसस सह -गाइड का नाम : डॉ. नसीमा सैफंक्ट, सहायक प्रोफेसर, कॉलेज ऑफ नर्सिंग,ईम्स भोपाल

Name of the thesis Co-Guide: Dr. Naseema Shafqat, , Assistant Professor, Nursing College ,AIIMS Bhopal.

सूचना पत्र दिनांक ------- की सामग्री उपलब्ध करा दी गई है, ध्यानपूर्व क पढ़ लिया गया है मेरे द्वारा/मुझे विस्तार से समझाया गया, उस भाषा में जिसे मैं समझता हूं, और मैं पूरी तरह से समझ गया हूं सामग्री मैं पुष्टि करता हूं कि मुझे प्रश्न पूछने का अवसर मिला है।

The content of the information sheet dated ..... has been provided, have been read carefully by me explained in detail to me, in a language that I comprehend, and I have fully understood the content.

I confirm that I have had the opportunity to ask questions.

सूचना पत्र दिनांक ------- की सामग्री उपलब्ध करा दी गई है, ध्यानपूर्व क पढ़ लिया गया है

मेरे द्वारा/मुझे विस्तार से समझाया गया, उस भाषा में जिसे मैं समझता हू, और मैं पूरी तरह से समझ गया हूं सामग्री मैं पुष्टि करता हूं कि मुझे प्रश्न पूछने का अवसर मिला है।

The nature and the purpose of the study and potential risks/benefits and expected duration of the study, and other relevant details of the study have been explained to me in detail. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal right being affected.

अध्ययन की प्रकृति और उद्देश्य और संभावित जोखिम/लाभ और अपेक्षित अवधि अध्ययन, और अध्ययन के अन्य प्रासंगिक विवरण मुझे विस्तार से समझाए गए हैं। मैं समझता हूँ कि मेरी भागीदारी स्वैच्छिक है और मैं बिना कोई कारण बताए किसी भी समय इसे वापस लेने के लिए स्वतंत्र हू। मेरी चिकित्सा देखभाल या कानूनी अधिकार प्रभावित हुए बिनामैं इस शोध और अनुभागों में मेरी भागीदारी से मेरे बारे में एकत्र की गई जानकारी को समझता हूं मेरे किसी भी मेडिकल नोट को एम्स, भोपाल के जिम्मेदार व्यक्तियों द्वारा देखा जा सकता है। मैं हूँ मैं इन व्यक्तियों को मेरे रिकॉर्ड तक पहुच की अनुमति देता हू।

I understand the information collected about me from my participation in this research and sections of any of my medical notes may be looked at by responsible individuals from AIIMS, Bhopal.

I am giving my permission for these individuals to have access to my records.

मैं इस अध्ययन में भाग लेने के लिए सहमत हू।

I agree to take part in this study.

तारीख: .....

Date:

जगह: .....

Place:

(प्रनतभागी के हस्ताक्षर / बां ए अं गू ठे का निशान)

(Signature/ left thumb impression)

प्रतिभागी का नाम:

Name of the participant:

पुत्र/पुत्री/पति/पत्नी:

Son/daughter/Spouse of:

डाक का पूरा पता

Complete postal address:

प्रमाणित किया जाता है कि उपरोक्त सहमति मेरी उपस्थिति में प्राप्त की गई है

This is to certify that the above consent has been obtained in my presence

Signature of the Investigator:

अन्वेषक के हस्ताक्षर: Date: Place:

तारीख: जगह:

ANNEXURE 11

INFORMATION ON SAMPLE CHARACTERISTICS

SECTION-1 SOCIO DEMOGRAPHIC PROFORMA		Experimental (%)	Control (%)	Experimental (N=6)	Control (N=6)
Age	Upto 25 years	13.3%	40.0%	4	12
	26-30 years	50.0%	56.7%	15	17
	31-35 years	36.7%	3.3%	11	1
Gender	Male	66.7%	66.7%	20	20
	Female	33.3%	33.3%	10	10
Education Status	GNM	20.0%	23.3%	6	7
	B.Sc nursing	63.3%	56.7%	19	17
	Post Basic B.Sc Nursing	6.7%	13.3%	2	4
	M.Sc Nursing	10.0%	6.7%	3	2
Year of Work Experience	Upto 1 year	33.3%	30.0%	10	9
	2-5 years	40.0%	60.0%	12	18
	6-10 years	26.7%	10.0%	8	3
Any Previous Experience	Yes	20.0%	33.3%	6	10
	No	80.0%	66.7%	24	20
Any Previous Knowledge	Yes	43.3%	40.0%	13	12
	No	56.7%	60.0%	17	18

SECTION A : DEMOGRAPHIC VARIABLE PROFORMA FOR NURSES (Experimental group)

S. NO.	AGE	GENDER	EDUCATION STATUS	YEAR OF WORK EXPERIENCE	ANY PREVIOUS EXPERIENCE	ANY PREVIOUS KNOWLEDGE
1 EXP	33	1	3	6 YEAR	1	1
2 EXP	33	1	4	10 YEAR	2	2
3 EXP	31	1	2	4 YEAR	2	2
4 EXP	27	1	2	1 YEAR	2	2
5 EXP	29	1	2	4 MONTH	2	2
6 EXP	28	1	2	1 YEAR	2	2
7 EXP	29	1	2	3 YEAR	2	1
8 EXP	30	1	1	1 YEAR	2	2
9 EXP	26	2	2	2 YEAR	2	2
10 EXP	27	1	1	1 YEAR	2	2
11 EXP	26	1	1	1 YEAR	2	2
12 EXP	31	2	1	3 YEAR	2	2
13 EXP	32	1	3	1 YEAR	2	2
14 EXP	28	2	2	5 YEAR	2	1
15 EXP	32	2	1	7 YEAR	1	1
16 EXP	27	2	2	5 YEAR	2	1
17 EXP	32	1	4	3 YEAR	2	2
18 EXP	29	1	2	5 YEAR	2	2
19 EXP	23	1	2	2 YEAR	2	2
20 EXP	25	2	2	10 MONTHS	2	2
21 EXP	28	1	2	4 YEAR	2	1
22 EXP	28	1	2	6 YEAR	2	2
23 EXP	24	2	2	1 YEAR	2	1
24 EXP	30	1	2	5 YEAR	2	1
25 EXP	34	1	4	10 YEAR	2	1
26 EXP	32	2	2	3 YEAR	1	1
27 EXP	25	2	2	1 YEAR	1	2
28 EXP	30	2	2	6 YEAR	1	1
29 EXP	32	1	1	6 YEAR	2	1
30 EXP	33	1	2	10 YEAR	1	1

Gender*male=1,Female=2,Any previous experience of caring patient with IABP*Yes=1,No=2,Any previous knowledge of IABP*Yes=1

,No=2,Education status* GNM=1,B.sc nursing=2 ,post basic B.sc nursing=3,M.sc nursing=4

ANNUXURE 11

SECTION A : DEMOGRAPHIC VARIABLE PROFORMA FOR NURSES (Control group)

S. NO.	AGE	GENDER	EDUCATION STATUS	YEAR OF WORK EXPERIENCE	ANY PREVIOUS EXPERIENCE	ANY PREVIOUS KNOWLEDGE
1 CTRL	28	1	2	6 year	1	1
2 CTRL	28	1	3	2 year	2	2
3 CTRL	30	1	2	3 yaer	2	2
4 CTRL	28	1	1	1 year	2	2
5 CTRL	30	1	3	6 year	1	1
6 CTRL	26	1	2	1 year	1	1
7 CTRL	21	2	2	1 year	1	1
8 CTRL	24	1	2	2 year	2	2
9 CTRL	28	2	2	3 year	2	2
10 CTRL	24	1	4	2 year	2	2
11 CTRL	23	1	2	1 year	2	2
12 CTRL	30	2	2	6 year	2	2
13 CTRL	26	1	3	3 year	1	1
14 CTRL	26	2	2	4 year	2	2
15 CTRL	22	1	1	1 year	2	2
16 CTRL	25	1	3	3 year	1	1
17 CTRL	22	2	1	9 month	1	1
18 CTRL	32	1	2	8 year	2	2
19 CTRL	27	2	2	4 year	1	1
20 CTRL	26	1	4	4 year	2	2
21 CTRL	22	2	2	1 year	2	1
22 CTRL	29	1	2	3 year	2	2
23 CTRL	24	1	1	2 year	1	1
24 CTRL	25	1	2	2 year	2	2
25 CTRL	30	2	2	1 year	2	2
26 CTRL	25	1	2	1 year	2	1
27 CTRL	28	1	1	5 year	1	1
28 CTRL	26	1	2	4 year	1	1
29 CTRL	23	1	2	3 year	2	2
30 CTRL	26	2	1	4 year	2	2

Gender*male=1,Female=2,Any previous experience of caring patient with IABP*Yes=1,No=2,Any previous knowledge of IABP*Yes=1

,No=2,Education status* GNM=1,B.sc nursing=2 ,post basic B.sc nursing=3,M.sc nursing=

ANNEXURE 12

PRETEST- CONTROL GROUP
Master data sheet

S.N0	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	1
2	1	1	1	1	0	1	1	0	1	1	1	0	1	1	0	1	0	1	1	1	1	1	0	1	1
3	1	1	0	1	0	0	1	0	0	1	1	1	1	1	0	0	0	1	0	0	1	1	1	0	1
4	0	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1
5	1	1	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1
6	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	0	1	1	1
7	0	1	1	0	0	1	0	0	0	1	1	1	0	0	0	0	1	0	0	0	1	0	0	0	0
8	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	1	0	1	0	1
9	0	0	1	0	1	0	1	0	1	1	1	1	0	0	0	0	0	1	0	1	1	0	0	1	1
10	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	1	1	0	0	1	0	1	0
11	0	0	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	0	0
12	0	0	0	0	1	0	0	1	0	1	1	0	0	1	1	1	0	1	0	0	1	0	0	0	0
13	1	0	1	1	1	0	1	0	0	1	0	0	1	0	0	0	0	0	1	1	1	0	0	0	1
14	1	1	0	1	0	1	1	0	0	0	1	0	0	0	1	0	0	1	0	1	1	0	0	0	1
15	1	0	1	0	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	1	1
16	1	1	1	0	1	1	1	0	1	0	0	1	1	1	1	0	1	1	1	0	1	1	1	0	1
17	1	1	0	1	0	1	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0	0	1	1	1
18	0	0	0	1	1	0	0	0	1	1	0	1	0	1	0	1	1	0	1	0	0	1	1	1	0
19	0	1	1	0	0	1	0	0	1	0	1	1	1	1	0	1	0	1	0	0	1	0	0	1	0
20	0	0	1	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	0
21	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	0
22	0	0	1	0	0	1	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1
23	0	1	1	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
24	0	1	1	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
25	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0
26	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
27	0	0	1	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0
28	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0
29	0	0	1	0	0	1	1	0	1	0	1	1	1	0	0	0	0	0	0	0	1	0	0	1	0
30	0	1	1	0	0	0	1	1	0	0	0	0	0	1	1	0	1	0	1	0	1	0	0	0	0

ANNEXURE 13

PRETEST- EXPERIMENTAL GROUP
Master data sheet

S.N0m	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
1	1	1	0	1	0	1	0	0	1	1	0	1	1	1	0	1	0	1	1	1	1	1	0	1	1
2	0	1	1	1	1	1	1	0	1	0	1	0	1	1	0	1	0	0	1	1	1	0	1	1	0
3	1	0	1	1	1	0	1	0	1	0	1	1	0	1	1	0	0	1	1	0	0	1	1	1	1
4	1	1	0	1	1	1	1	0	1	0	1	1	0	0	0	1	0	1	0	1	1	0	1	1	0
5	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	0	1	1	0	1	1	0	0	1
6	1	0	1	0	1	0	1	1	0	1	0	1	1	1	0	0	1	1	1	0	1	1	0	1	1
7	1	1	0	0	1	1	1	1	0	1	0	1	1	1	1	0	1	0	1	1	0	1	0	0	0
8	0	0	1	0	0	1	0	1	1	1	0	1	0	1	0	0	1	0	0	1	1	0	1	0	1
9	0	1	1	1	1	0	1	0	1	1	0	1	0	1	0	1	0	1	0	0	1	1	0	0	0
10	0	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0
11	0	0	1	1	1	1	1	0	1	0	1	0	1	1	1	1	0	1	1	0	1	0	1	0	0
12	0	1	0	0	1	0	0	1	0	1	1	0	0	1	1	1	0	1	0	0	1	0	0	0	1
13	1	0	0	0	1	0	0	1	0	1	1	1	1	0	1	0	1	1	0	1	1	0	1	0	1
14	1	1	0	1	1	1	1	0	1	0	0	0	1	0	0	1	0	1	0	1	1	0	1	0	1
15	1	0	1	1	1	0	0	0	0	1	0	1	0	0	1	1	1	0	0	0	1	0	1	1	0
16	1	1	1	0	1	1	1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1
17	1	1	0	1	0	1	0	1	0	1	1	1	1	0	0	1	1	1	1	1	1	0	1	1	1
18	1	0	0	1	1	1	1	0	1	1	0	1	1	1	0	1	1	0	1	0	0	1	0	1	0
19	0	1	1	1	0	1	0	0	1	0	1	1	1	1	0	1	0	1	0	0	1	0	0	1	0
20	0	0	1	0	1	1	1	0	1	1	0	1	0	0	1	0	1	0	0	0	1	0	1	0	1
21	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	1	0	1	1	0
22	0	1	1	0	0	1	0	1	1	0	1	1	1	1	0	0	1	0	0	1	0	0	0	1	1
23	0	1	1	1	0	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	1	0	0	1	0
24	0	1	1	1	0	1	1	0	1	0	0	0	0	0	1	1	1	0	0	1	1	0	0	1	1
25	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0
26	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0
27	0	0	1	0	0	1	1	0	1	0	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0
28	0	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0
29	0	0	1	0	1	1	1	0	1	0	0	1	1	0	0	1	0	0	1	0	1	1	0	0	0
30	1	1	0	0	1	0	1	0	0	1	0	0	0	1	1	1	1	0	1	0	1	0	1	0	1

ANNEXURE 14

POSTEST- CONTROL GROUP
Master data sheet

S.N0	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1
2	0	0	1	1	0	1	1	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1	1	1	0
3	1	0	1	1	1	0	1	0	1	0	1	1	0	1	1	0	0	1	1	0	0	1	1	1	1
4	1	1	0	1	1	1	1	1	1	0	1	1	0	0	1	1	0	1	0	1	1	0	1	1	1
5	1	1	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	0	0	1
6	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	1	1	1	1	0	1	1	1	1	1
7	0	1	1	0	0	1	1	0	0	1	1	1	1	0	0	0	1	0	0	1	1	0	0	1	0
8	0	1	0	1	0	1	0	0	1	1	0	1	1	1	1	0	1	1	0	1	1	0	1	1	1
9	0	0	1	1	1	0	1	0	0	1	1	1	0	0	0	1	0	1	1	1	1	0	0	0	1
10	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	1	1	0	0	1	0	1	0
11	0	0	1	1	0	1	1	0	1	1	1	0	1	1	0	1	0	1	1	0	1	0	1	0	0
12	0	0	0	0	1	0	0	1	0	0	1	0	0	1	1	1	0	1	0	0	1	0	0	0	0
13	1	1	0	0	1	0	0	1	0	1	1	0	1	0	1	0	0	1	0	1	1	0	0	0	1
14	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	1	0	1	0	1	1	0	1	0	1
15	1	0	1	1	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	1	1	0
16	1	1	1	0	1	1	1	1	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1	0	1
17	1	1	0	1	0	1	0	0	0	1	1	1	1	0	0	1	1	1	1	1	0	0	1	1	1
18	0	0	0	1	1	1	0	0	1	1	0	1	1	1	0	1	1	0	1	0	0	1	0	1	0
19	0	1	1	0	0	1	0	0	1	0	1	1	1	1	0	1	0	1	0	0	1	0	0	1	0
20	0	0	1	0	0	1	1	0	1	0	0	1	0	0	1	0	1	0	0	0	1	0	0	0	1
21	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0
22	0	1	1	0	0	1	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1
23	0	1	1	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
24	0	1	1	1	0	1	1	0	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1
25	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	0
26	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0
27	0	0	1	0	0	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0
28	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
29	0	0	1	0	0	1	1	0	1	0	0	1	1	0	0	1	0	0	0	0	1	1	0	1	0
30	0	1	1	0	0	0	1	1	0	1	0	0	0	1	1	0	1	0	1	0	1	0	1	0	0

ANNEXURE 15

POSTEST- EXPERIMENTAL GROUP
Master data sheet

S.N0	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	1
5	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1
6	1	0	1	1	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	0	1	0	1	1	1
7	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	0	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	1	1
9	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1
11	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1
12	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1
13	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1
14	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1
15	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1
17	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
19	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
21	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	0	1	1	1	1	1
23	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
25	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1
26	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
27	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
28	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1
29	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
30	0	1	1	1	1	0	1	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1